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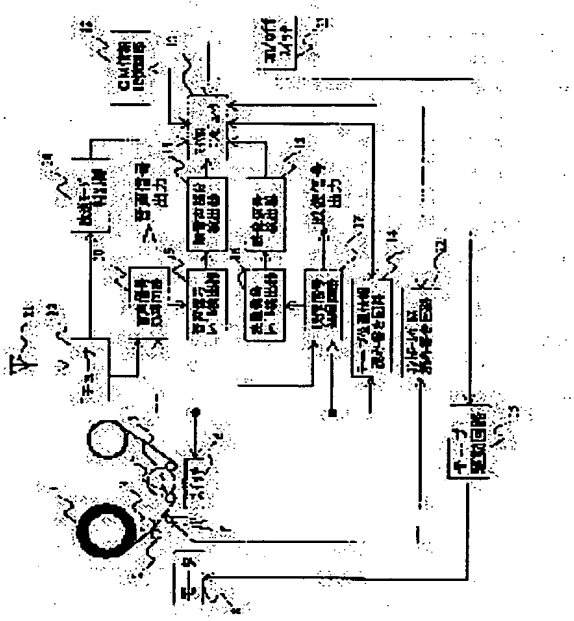
(71)Applicant : HITACHI LTD
(72)Inventor : TADA YUKINOBU
NISHIJIMA HIDEO
OKAMOTO CHIKAYUKI
KIJIMA MASAYUKI

(54) VIDEO RECORDING AND REPRODUCING DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a video recording and reproducing device that can distinguish commercial message(CM) parts from other TV parts even when both the CM and the TV parts are recorded in the same broadcast mode.
SOLUTION: A magnetic head 4 records a TV broadcast signal on a magnetic tape 1 from which the TV broadcast signal is reproduced. A silence part detector 11 detects silence parts from an audio signal in the TV signal when a recording reproducing means records the TV broadcast signal. A CM part detection means 13 detects CM parts in the TV broadcast signal at a time interval among the plural silence parts to be detected and a CM information storage circuit 12 stores the information of recorded positions of the CM parts detected by the CM part detection means to the magnetic tape 1. The CM parts at recording positions to the magnetic tape 1 are skipped and reproduced from the information of the recording positions of the CM parts to the magnetic tape 1 and stored in the storage circuit in the case of reproducing the TV broadcast signal from the tape 1.



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CLAIMS

[Claim(s)]
[Claim 1] An image record regenerative apparatus which has a record playback means characterized by providing the following to record a television broadcasting signal on a record medium, and to reproduce a television broadcasting signal from this record medium A non-voice partial detection means to detect a non-voice portion from a sound signal in this television signal at the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means A commercial message partial detection means by which a time interval between two or more non-voice portions detected by this non-voice partial detection means detects a commercial message portion in the above-mentioned television broadcasting signal A storage means to memorize information on a record location to the above-mentioned record medium of a commercial message portion detected by this commercial message partial detection means The control means which controls the playback from the above-mentioned record medium to skip this commercial message portion in the record location to the above-mentioned record medium of the above-mentioned commercial message portion at the time of playback of the above-mentioned television-broadcasting signal from the above-mentioned record medium by the above-mentioned record playback means, and to reproduce at it based on the information on the record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned storage means
[Claim 2] In an image record regenerative apparatus according to claim 1, further at the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a video-signal detection means to detect a changing point of a video signal to a video signal in this television signal. The above-mentioned commercial message partial detection means With the above-mentioned silent voice partial detection means and the above-mentioned video-signal detection means An image record regenerative apparatus characterized by detecting a commercial message portion in the above-mentioned television broadcasting signal based on a time interval between two or more detected non-voice portions, and a time interval between changing points of two or more video signals.
[Claim 3] It is the image record regenerative apparatus characterized by detecting a point that video-signal level turns into black level as a changing point of the above-mentioned video signal in an image record regenerative apparatus according to claim 2, as for a commercial message partial detection means of the above 2nd.
[Claim 4] It is the image record regenerative apparatus characterized by detecting a point that video-signal level turns into a white level as a changing point of the above-mentioned video signal in an image record regenerative apparatus according to claim 2, as for a commercial message partial detection means of the above 2nd.
[Claim 5] It is the image record regenerative apparatus with which video-signal level is characterized by detecting a point that a commercial message partial detection means of the above 2nd changes a lot as a changing point of the above-mentioned video signal in an image record regenerative apparatus according to claim 2.
[Claim 6] It is the image record regenerative apparatus characterized by the above-mentioned storage means consisting of semiconductor memory in an image record regenerative apparatus according to claim 1.
[Claim 7] The above-mentioned storage means is an image record regenerative apparatus characterized by being the above-mentioned record medium on which the above-mentioned television broadcasting signal is recorded by the above-mentioned record playback means in an image record regenerative apparatus according to claim 1.
[Claim 8] Information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means in an image record regenerative apparatus according to claim 7 is an image record regenerative apparatus characterized by what is memorized in a head location of the above-mentioned record medium.
[Claim 9] Information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means in an image record regenerative apparatus according to claim 7 is an image record regenerative apparatus characterized by what is memorized in each head location of two or more television signals recorded on the above-mentioned record medium.
[Claim 10] The information on the record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means in an image record regenerative apparatus according to claim 7 is the image record regenerative apparatus characterized by what is memorized in a head location and a termination location of a commercial message portion which are included in two or more television signals recorded on the above-mentioned record medium.

[Claim 11] In an image record regenerative apparatus according to claim 2, further at the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a mode distinction means to detect a commercial message portion in the above-mentioned television broadcasting signal based on a difference of broadcast mode with a part for a program content block and a commercial message portion in this television signal. The above-mentioned commercial message partial detection means With the above-mentioned silent voice partial detection means, the above-mentioned video-signal detection means, and the above-mentioned mode distinction means An image record regenerative apparatus characterized by detecting a commercial message portion in the above-mentioned television broadcasting signal based on a difference of a time interval between two or more detected non-voice portions, a time interval between changing points of two or more video signals, and broadcast mode.
[Claim 12] It is the image record regenerative apparatus characterized by judging that it is a commercial message portion when a time interval with which the above 1st and the 2nd commercial message partial detection means were detected in an image record regenerative apparatus given in any of claim 1 or claim 2 they are is the multiple which is about N seconds.
[Claim 13] The above 1st and the 2nd commercial message partial detection means are an image record regenerative apparatus characterized by judging that it is a commercial message portion when two or more time intervals of a multiple for about N seconds are continuously detected in an image record regenerative apparatus according to claim 12.

[Translation done.]

* NOTICES *

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This case starts an image record regenerative apparatus, especially carries out record playback of the television broadcasting signal, and is related with the image record regenerative apparatus which distinguishes a part for a commercial message portion and a program content block in a program.
[0002]
[Description of the Prior Art] The image record regenerative apparatus which deletes a commercial message portion and records a part for a commercial message portion and a program content block in distinction from the time of recording a television broadcasting signal from this television broadcasting signal is known. As this equipment, the two-language broadcast mode distinction method given in JP,3-158086,A, the stereophonic broadcasting mode distinction method given in JP,3-262287,A, etc. are learned, for example.
[0003] Since the stereophonic broadcasting of the commercial message is carried out to JP,3-158086,A by the method of a publication, the two-language broadcast mode contained in the sound signal of television broadcasting is distinguished, a part for the program content block in two-language broadcast mode and the commercial message portion in stereophonic broadcasting mode are distinguished, automatic deletion only of the commercial message (CM) portion is carried out, and a part for the program content block in two-language broadcast mode is recorded.
[0004] Moreover, by the method given in JP,3-262287,A, the stereophonic broadcasting mode contained in the sound signal of television broadcasting is distinguished, a part for the program content block in stereophonic broadcasting mode and the commercial message portion in monophonic broadcast mode are distinguished, automatic deletion only of the commercial message portion is carried out, and a part for the program content block in stereophonic broadcasting mode is recorded.
[0005]
[Problem(s) to be Solved by the Invention] However, in the conventional technology mentioned above, if it is in a two-language broadcast mode distinction method, when the amount of program content blocks are a monophonic program and a stereo broadcast, automatic deletion of CM portion cannot be performed. Moreover, in the case of a stereophonic broadcasting mode distinction method, since it is premised on CM being monophonic broadcast from the first, when the CM itself is stereophonic broadcasting, distinction with a stereo broadcast does not stick again.
[0006] Therefore, if it was in the conventional method, there was a problem that both distinction did not stick according to a difference of the broadcast mode of two-language broadcast, monophonic broadcast, and stereophonic broadcasting when a part for a program content block and a commercial message portion are in same broadcast mode, since it is what is going to distinguish a part for two kinds of program content blocks.
[0007] If two-language broadcast and stereophonic broadcasting are taken in to a film program, a music program, a sports program, a drama program, or other general programs and the amount of program content block is also in the conventional method especially in recent years, a possibility that only a commercial message portion can be deleted falls and it is becoming impossible to use it practical.
[0008] Even if the object of this invention has the same broadcast mode, it is to offer the image record regenerative apparatus which can distinguish a commercial message portion.
[0009]
[Means for Solving the Problem] In an image record regenerative apparatus which has a record playback means for this invention to record a television broadcasting signal on a record medium, and to reproduce a television broadcasting signal from this record medium in order to attain the above-mentioned object A non-voice partial detection means to detect a non-voice portion from a sound signal in this television signal at the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means, A commercial message partial detection means by which a time interval between two or more non-voice portions detected by this non-voice partial detection means detects a commercial message portion in the above-mentioned television broadcasting signal, A storage means to memorize information on a record location to the above-mentioned record medium of a commercial message portion detected by this commercial message partial detection means, At the time of playback of the above-mentioned television broadcasting signal from the above-mentioned record medium by the above-mentioned record playback means It is based on information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned storage means. In a record location to the above-mentioned record medium of the above-mentioned commercial message portion, it has a control means which controls playback from the above-mentioned record medium to skip this

commercial message portion and to reproduce.
[0010] In the above-mentioned image record regenerative apparatus preferably At furthermore, the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a video-signal detection means to detect a changing point of a video signal to a video signal in this television signal. The above-mentioned commercial message partial detection means Based on a time interval between two or more non-voice portions detected by the above-mentioned silent voice partial detection means and the above-mentioned video-signal detection means, and a time interval between changing points of two or more video signals, a commercial message portion in the above-mentioned television broadcasting signal is detected.
[0011] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level turns into black level, as a changing point of the above-mentioned video signal.
[0012] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level turns into a white level, as a changing point of the above-mentioned video signal.
[0013] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level changes a lot, as a changing point of the above-mentioned video signal.
[0014] In the above-mentioned image record regenerative apparatus, the above-mentioned storage means consists of semiconductor memory preferably.
[0015] Be made to let the above-mentioned storage means be the above-mentioned record medium on which the above-mentioned television broadcasting signal is recorded by the above-mentioned record playback means preferably in the above-mentioned image record regenerative apparatus.
[0016] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in a head location of the above-mentioned record medium.
[0017] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in each head location of two or more television signals recorded on the above-mentioned record medium.
[0018] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in a head location and a termination location of a commercial message portion which are included in two or more television signals recorded on the above-mentioned record medium.
[0019] In the above-mentioned image record regenerative apparatus preferably At furthermore, the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a mode distinction means to detect a commercial message portion in the above-mentioned television broadcasting signal based on a difference of broadcast mode with a part for a program content block and a commercial message portion in this television signal. The above-mentioned commercial message partial detection means With the above-mentioned silent voice partial detection means, the above-mentioned video-signal detection means, and the above-mentioned mode distinction means Based on a difference of a time interval between two or more detected non-voice portions, a time interval between changing points of two or more video signals, and broadcast mode, a commercial message portion in the above-mentioned television broadcasting signal is detected.
[0020] It is made to judge preferably that the above 1st and the 2nd commercial message partial detection means are commercial message portions when a detected time interval is the multiple which is about N seconds in the above-mentioned image record regenerative apparatus.
[0021] It is made to judge preferably that the above 1st and the 2nd commercial message partial detection means are commercial message portions when two or more time intervals of a multiple for about N seconds are detected continuously in the above-mentioned image record regenerative apparatus.
[0022]
[Function] A non-voice partial detection means to detect a non-voice portion from the sound signal in this television signal in this invention at the time of record of the television broadcasting signal by the record playback means, A commercial message partial detection means by which the time interval between two or more non-voice portions detected by this non-voice partial detection means detects the commercial message portion in a television broadcasting signal, A storage means to memorize the information on the record location to the record medium of the commercial message portion detected by this commercial message partial detection means, At the time of playback of the television broadcasting signal from the record medium by the record playback means It is based on the information on the record location to the record medium of the commercial message portion memorized by the storage means. By having the control means which controls the playback from a record medium by the record location to the record medium of a commercial message portion to skip this commercial message portion and to reproduce Since a commercial message portion is skipped and it can reproduce using the time interval of the non-voice portion of the sound signal in a television signal, even if broadcast mode is the same, a commercial message portion is distinguished and it can reproduce.

[0023] Moreover, by having a video-signal detection means to detect the changing point of a video signal to the video signal in this television signal, at the time of record of the television broadcasting signal by the record playback means Since a commercial message partial detection means detects the commercial message portion in a television broadcasting signal based on the time interval between two or more non-voice portions detected by the non-voice partial detection means and the video-signal detection means, and the time interval between the changing points of two or more video signals A commercial message portion can be distinguished more to accuracy.
[0024] Furthermore, the 2nd commercial message partial detection means can distinguish a changing point easily by detecting the point that video-signal level turns into black level, as a changing point of a video signal.
[0025] Moreover, the 2nd commercial message partial detection means can distinguish a changing point easily like black level by detecting the point that video-signal level turns into a white level, as a changing point of a video signal.
[0026] Furthermore, the 2nd commercial message partial detection means can distinguish changing points also including a fade-out portion by detecting the point that video-signal level changes a lot, as a changing point of a video signal.
[0027] Moreover, a storage means may make storage possible by constituting from semiconductor memory at the time of record.
[0028] Furthermore, by considering as the record medium on which a television broadcasting signal is recorded by the record playback means, a storage means can use the existing record medium, and even if a new storage means is not used for it, it can be managed by it.
[0029] Moreover, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means can rewrite all information anew by memorizing in the head location of a record medium also in the case of overwrite.
[0030] Furthermore, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means may lessen the amount of rewinding of the record medium after record termination by memorizing in each head location of two or more television signals recorded on a record medium.
[0031] Moreover, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means may carry out skip playback as it is from the present location at the time of playback by memorizing in the head location and termination location of a commercial message portion which are included in two or more television signals recorded on a record medium.
[0032] At furthermore, the time of record of the television broadcasting signal by the record playback means By having a mode distinction means to detect the commercial message portion in a television broadcasting signal based on the difference of broadcast mode with a part for a program content block and the commercial message portion in this television signal A commercial message partial detection means With a non-voice partial detection means, a video-signal detection means, and a mode distinction means By detecting the commercial message portion in a television broadcasting signal based on a difference of the time interval between two or more detected non-voice portions, the time interval between the changing points of two or more video signals, and broadcast mode It is more accurate and a commercial message portion can be distinguished.
[0033] Moreover, the 1st and 2nd commercial message partial detection means can distinguish a commercial message portion easily by judging that it is a commercial message portion, when the detected time interval is the multiple which is about N seconds.
[0034] Furthermore, the 1st and 2nd commercial message partial detection means can distinguish a commercial message portion with a sufficient precision by judging that it is a commercial message portion, when two or more time intervals of the multiple for about N seconds are detected continuously.
[0035]
[Example] One example of this invention is explained using drawing 1 . Drawing 1 is the block diagram of the image record regenerative apparatus by one example of this invention.
[0036] The magnetic head 4 is attached in two rotating cylinders 5. A magnetic tape 1 is wound around a rotating cylinder 5, and a television broadcasting signal is recorded by the magnetic head 4, and it is played. The regenerative signal which continued in time is acquired by using the two magnetic heads 4, switching by the magnetic-head transfer switch 6. The magnetic-head transfer switch 9 chooses and switches the regenerative signal of the side which has touched to a magnetic tape 1 here according to whether which one has touched between two rotary heads. As for this timing, it is common to detect and obtain the magnetic field which the magnet (not shown) attached in the rotating cylinder 5 makes by the sensor (not shown).
[0037] The magnetic tape 1 is usually sent with constant speed, and this speed is controlled by the capstan 2 which countered with the pinch roller 3 and has been arranged. The magnetic tape drive motor 8 is used for actuation of a capstan 2, and actuation of the take up reel which rolls round a magnetic tape 1, and has a rotational frequency controlled according to the modes, such as usual transit of a magnetic tape 1, and rapid-traverse transit.
[0038] Moreover, although the control pulse for being used for the various control other than the usual television broadcasting signal is also recorded on a magnetic tape 1, this record is performed using the arm head 7 for control pulses. A control pulse is recorded every [1/] 30 seconds.
[0039] Here, the case where the television broadcasting signal with which CM exists is recorded is explained.
[0040] The signal of television broadcasting is inputted into an antenna 21, and is supplied to a tuner 20. The program of hope is tuned in in a tuner 20. Through the magnetic-head transfer switch 9, it is sent to the two

magnetic heads 4 by turns, and is recorded on a magnetic tape 1 while transform processing of the program tuned in in the tuner 20 is carried out in the sound signal processing circuit 10 and it is outputted as a sound signal of a RF signal. Moreover, while transform processing is carried out in the video-signal processing circuit 17 and outputted as a video signal of baseband, through the magnetic-head transfer switch 9, it is sent to the two magnetic heads 4 by turns, and is recorded on a magnetic tape 1.

[0041] The recognition number of the tape is also recorded on a magnetic tape 1 through the magnetic head 4 by the command from a microcomputer 13 at a recording start and coincidence in the tape positional information R/W circuit 14 with the time code which is the positional information of a tape. This information is coded and written in each V blanking portion of a video signal etc. The recognition number of a tape is a number which gives 99 titles compulsorily with the directions from a microcomputer 13 for every magnetic tape.

[0042] On the other hand, the signal outputted as a sound signal in the sound signal processing circuit 10 is supplied to the sound signal level detector 9. The magnitude of the level of a sound signal is detected in the sound signal level detector 9. The sound signal level detector 9 consists of smoothing circuits, carries out smoothness of the sound signal of low frequency, and takes out a direct current signal.

[0043] The magnitude of the level detected by the sound signal level detector 9 is supplied to the non-voice partial detector 11. In the non-voice partial detector 11, the point that sound signal level becomes near zero is detected, and a detecting signal is supplied to a microcomputer 13. The non-voice partial detector 11 is constituted by the comparison circuit, and as compared with this reference voltage, when the level of a sound signal is larger than reference voltage, it outputs level"1" for the level of the sound signal which inputted reference voltage as slightly larger level than 0V or this. When the level of a sound signal is smaller than reference voltage, it may be made to output level"1" here by carrying out the internal organs of the NOT circuit to this circuit.

[0044] The output of the non-voice partial detector 11 is incorporated by the microcomputer 13. In a microcomputer 13, the time of day of this detecting signal supplied from the non-voice partial detector 11 and the positional information of the tape supplied from the tape positional information R/W circuit 14 are memorized, and the time interval of a detecting signal is measured from the time of day of a next detecting signal, and when the gap of this detecting signal and a next detecting signal is a fixed time interval, it is judged that it is CM. The positional information of a tape is the information on the time code which is equivalent to an absolute address (absolute time) and Z X for Y seconds per part from the head location of a tape. About the method of judging to be CM, it mentions later using drawing 2 .

[0045] In addition, although the non-voice partial detector 11 was explained as a circuit of another configuration, it incorporates the signal of the sound signal level detector 9 in the direct microcomputer 13, and performs A/D change, and you may make it detect a non-voice portion within a microcomputer 13 on it in a microcomputer 13 as compared with reference voltage, since the latest microcomputer 13 is carrying out the internal organs of the A/D converter of two or more channels.

[0046] On the other hand, in the video-signal processing circuit 17, the signal outputted as a video signal of baseband is supplied to the video-signal level detector 16. This video-signal level detector 16 equalizes the signal level of the point that video-signal level carries out fade-out, and turns into black level or a white level, or a screen, and detects changing points, such as a point (a scene changing point) that signal level changes a lot. The video-signal level detector 16 consists of for example, frame integrating circuits. The trigger of the frame integrating circuit is carried out based on the Vertical Synchronizing signal (V-sync) in a video signal, and it integrates with the video signal for one frame. By this, the average level of the video signal of the video signal for one frame is called for, and the magnitude of the level of a video signal is detected. The magnitude of the level of the video signal detected by the video-signal level detector 16 is supplied to the video-signal detector 18.

[0047] As for the video-signal detector 18, this called-for average level is compared with the reference voltage of a comparison circuit. Here, when the signal by which the frame integral was carried out by considering as voltage somewhat higher than black level as reference voltage is higher than reference voltage, a comparison circuit judges that it is black level, and outputs. Of course, when lower than reference voltage, you may make it the signal by which the frame integral was carried out using the NOT circuit output a comparison circuit.

[0048] Moreover, when the signal by which the frame integral was carried out by considering as voltage somewhat lower than a white level as reference voltage is higher than reference voltage, a comparison circuit judges that it is a white level, and outputs.

[0049] Moreover, what is necessary is to constitute from a differential circuit and a comparison circuit, to differentiate signal level by the differential circuit as a video-signal detector 18, and just to constitute so that a comparison circuit may detect whether the differential value is larger than a reference value in order to detect the point (a scene changing point) that signal level changes a lot.

[0050] In U.S. inside, it is common to carry out fade-out before and after a commercial message portion, and the change rate of a scene is common in Japan. However, in Japan, since the level of a signal changes before and behind that when fade-out is carried out by using the method which detects the point (a scene changing point) that may carry out fade-out, and signal level changes a lot such even case, it can distinguish like a scene change rate.

[0051] In addition, it is not necessary to be necessarily one frame, and since what is necessary is just to detect the changing point of a scene, you may make it integrate it with the signal only near the center of a screen in short, for example, although the above explanation shall be integrated with the video signal for one frame. For example, in order to integrate with the video signal of the horizontal scanning segment from 100 Motome to 150 Motome, a trigger is hung so that an integrating circuit may be operated after predetermined time from this signal based on a

Vertical Synchronizing signal (V-sync), and only predetermined time should be made to carry out integral control action after that.
[0052] Moreover, although the comparison circuit was explained as a circuit of another configuration in the microcomputer 13, the latest microcomputer 13 incorporates the signal of an integrating circuit in the direct microcomputer 13, and performs A/D change, and it compares with reference voltage within a microcomputer 13, or it compares inter-frame average level, and you may make it detect the changing point of a video signal on it, since the internal organs of the A/D converter of two or more channels are carried out.
[0053] The video-signal detector 18 supplies a detecting signal to a microcomputer 13. A microcomputer 13 measures the time interval of a detecting signal from the time of day of this detecting signal and the time of day of a next detecting signal which were supplied from the video-signal detector 18, and when the time interval of this detecting signal and a next detecting signal is a fixed gap, it is judged that it is CM. About the method of judging to be CM, it mentions later using drawing 2 . The tape positional information supplied from the tape positional information R/W circuit 22 is also memorized to a microcomputer 13 at the same time the detecting signal by the sound signal and the video signal is outputted.
[0054] According to the feature of the signal of the above-mentioned sound signal and a video signal, when it is judged as CM using both distinction by the change portions or fade-out portions of distinction and a video signal by the signal of a non-voice portion, the tape positional information and the tape recognition number of termination of initiation of CM and CM are supplied to CM information store circuit 12. CM information storage circuit 12 memorizes a tape recognition number and tape positional information as CM information. CM information storage circuit 12 which memorizes this CM information is like semiconductor memory, such as EEPROM and RAM, or a magnetic tape. That is, the positional information of CM is serially memorized to CM information store circuit 12 at the time of record, recording a program.
[0055] In addition, while a judgment of CM is made as mentioned above, the sound signal and the video signal are recorded on the magnetic tape 1 through the magnetic head 4 like the usual video-signal recording device. Under the present circumstances, a part for all program content blocks and a commercial message portion are recorded, without performing deleting and recording CM portion which was stated with the conventional technology. And a commercial message portion is skipped at the time of playback, and it reproduces at it.
[0056] Next, the case where the recorded program is reproduced is explained. At the time of playback, reading appearance of the tape recognition number is carried out to the tape positional information written in a magnetic tape 1 by the tape positional information R/W circuit 14. The tape positional information and the tape recognition number which were read are supplied to a microcomputer 13. Refer to the CM positional information of the tape under playback memorized in CM information storage circuit 12 for a microcomputer 13 based on a tape recognition number.
[0057] If a microcomputer 13 becomes CM portion from the tape positional information under playback about CM portion and a program portion [based on CM positional information referred to from CM information storage circuit 12], a rapid traverse or the Hayami playback is directed to make CM portion skip in the tape drive circuit 15.
[0058] In a rapid traverse, a video signal and a sound signal are unreproducible from a magnetic tape 1. From the screen of a television receiver the original commercial message portion is skipped -- or, although it is unknown in whether a part for a program content block is skipped and is an image with reproduction speed early in the Hayami playback on the other hand once, since it appears as a screen, the commercial message portion is skipped -- or it is desirable to consider it as the Hayami playback to such needs, since a user can identify whether a part for a program content block is skipped.
[0059] According to the directions, the tape drive circuit 15 drives a motor 8, and carries out high-speed transit of the magnetic tape 1. A microcomputer 13 calculates the number of the control pulses which exist even in a termination location from the starting position of CM from CM information, and measures the control pulse supplied from the control pulse R/W circuit 22 from CM initiation portion. If the number with which the number of the measured control pulses exists in CM portion is reached, a microcomputer 13 will take out directions to the tape drive circuit 15 so that a rapid traverse or the Hayami playback may be returned to a stop and standard playback. The tape drive circuit 15 drives a motor 8, and carries out standard playback transit of the magnetic tape 1. At the time of high-speed transit, from the magnetic tape 1, since positional information cannot be read, it is measuring the travel (time amount of CM portion) of a tape using a control pulse.
[0060] Next CM portion is skipped similarly. CM portion and a program portion are distinguished as mentioned above, and only CM is made to skip. It decides whether carry out CM skip of the CM skip on/off switch 23 by decision of a user, or not carry out, and when this switch is ON, the signal of ON is supplied to a microcomputer 13, and it is directed in a tape drive circuit that a microcomputer 13 performs CM skip which mentioned above. When this switch is OFF, the signal of OFF is supplied to a microcomputer 13, and a microcomputer 13 does not perform CM skip mentioned above, but is reproduced like [a commercial message portion] a part for a program content block.
[0061] moreover, the conventional technology described the broadcast mode distinction machine 24 -- it is CM distinction means by broadcast mode distinction, and distinguishes from other two-language programs and monophonic programs based on a commercial message portion being stereophonic broadcasting. It is only distinguishing a commercial message portion and this broadcast mode distinction machine 24 does not perform deleting record based on the signal of this broadcast mode distinction machine 24. If the signal of this broadcast mode distinction machine 24 is used together with the non-voice partial detector 11 and the video-signal detector 18 and is performed, it will become possible to perform CM distinction with a more high precision.

[0062] Next, the CM distinction method is explained using drawing 2 .
[0063] In drawing 2 , the thick continuous line displayed as the record signal expresses the time-axis. To the timing of Downarrow indicated on this record signal, the portion (non-voice portion) from which voice level becomes zero is detected by the non-voice partial detector 11, and is incorporated by the microcomputer 13. Here, the non-voice portion is detected at time of day t1, t2, t3, t4, t5, t6, t7, t8, t9, t10, and t11. A microcomputer 13 measures each time interval.
[0064] CM is made from the fixed gap (the multiple for 15 seconds or 15 seconds, for example, 15 seconds, 30 seconds, 60 seconds), uses that a non-voice portion exists before and after that CM further, and judges the portion from which the gap of this non-voice portion becomes fixed to be CM portion. Naturally, although a non-voice portion exists also in a program portion, the gap does not serve as constant value, unless it means. It is judged with a program that the gap of a non-voice portion becomes more than a fixed gap or below a fixed gap at least. While recording a program on a magnetic tape 1, it is measured in the microcomputer 13 interior and goes, and serially, a non-voice portion is memorized and marked on CM information storage circuit 12 from a microcomputer 13, further, it carries out the reorganization collection of the gap portion after record termination, distinguishes a program portion and CM portion, and memorizes them in CM information storage circuit 12.
[0065] in addition, the time interval between non-voice portions — accuracy — 15 seconds — ********** . The time amount of a non-voice portion itself is because there is usually about 500ms or more. Although this time amount changes with CMs, even if short, it is for 200ms. Therefore, in the case of 14.5 seconds - 15.0 seconds, the case of 29.5 seconds - 30.0 seconds, and in the case of 59.5 seconds - 60.0 seconds, the time interval between non-voice portions distinguishes from CM portion. Although the case where the time interval of CM portion is short can also be distinguished as it is CM portion if this time interval is extended, a part for an original program content block may be used as CM portion a misjudgment exception in that case.
[0066] Measurement of the time interval by the microcomputer 13 here For example =50sec, (t2-t1) =65sec, (t3-t1) =15sec, (t3-t2) =30sec, (t4-t2) =15sec, (t4-t3) =45sec, (t5-t2) =30sec, (t5-t3) =15sec, (t5-t4) =115sec, (t6-t2) =100sec, (t6-t3) =85sec, (t6-t4) =70sec, (t6-t5) =15sec, (t7-t6) =30sec, (t8-t6) =15sec, (t8-t7) =38sec, (t9-t6) =23sec, (t9-t7) =8sec, (t9-t8) =53sec, (t10-t6) =38sec, (t10-t7) (t10-t8) It is carried out like =23sec, =(t10-t9) 15sec, =(t11-t6)64sec, =(t11-t7)49sec, =(t11-t8)34sec, =(t11-t9)26sec, and =(t11-t10)11sec.
[0067] That is, the time interval of the next door and a non-voice portion is also further measured only in addition to a ****** non-voice portion. This is because distinction of a commercial message portion is not attached by that a non-voice portion is contained also in 15 seconds or in the commercial message portion of the time amount of this multiple only with the time interval of a ****** non-voice portion for a certain reason, either. Then, to the non-voice portion of time of day t1, time difference with time of day t2 and t3 is measured. On the other hand, since there is no commercial message portion of the length for 60 seconds or more when the time interval of a non-voice portion and a non-voice portion exceeds 60 seconds, and measurement of the time difference beyond it is useless, measurement of the time difference after it is not performed. That is, if time difference with time of day t3 is measured to the non-voice portion of time of day t1, measurement of the time difference after it will not be performed.
[0068] Moreover, in drawing 2 , the downward arrow head on a non-voice portion shows the video-signal change portion. That is, the signal level of a screen is equalized and signal level measures the time interval of the point (a scene changing point) of changing a lot, like measurement of the time interval in an above-mentioned non-voice portion. The time interval of a video-signal change portion is [like / it is ****** from drawing 2 and] short compared with the time interval of a non-voice portion. While recording a program on a magnetic tape 1, a video-signal change portion is measured in the microcomputer 13 interior, goes, it carries out the reorganization collection of the gap portion after serial or record termination, and distinguishes a program portion and CM portion. Microcomputers 13 are a non-voice portion and a video-signal change portion, and can distinguish a commercial message portion to accuracy by taking conditions.
[0069] As a changing point of a video signal, a composite signal, a luminance signal, a color-difference signal, etc. carry out fade-out, the point set to black level or a white level can also be used, and the arrow head indicated on the video-signal change portion of drawing 2 shows the fade-out portion.
[0070] The method of using a fade-out portion in the recording device which the fade-out portion is generally formed before and after the commercial message portion by the broadcast signal in the United States, and is used in the United States by the broadcast signal in Japan although a non-voice portion is generally formed before and after a commercial message portion is effective.
[0071] Furthermore, although a time interval is 15 seconds, if the above-mentioned non-voice partial detector 11 and the above-mentioned video-signal detector 18 are used for the non-voice portion which appears at time of day t10 from time of day t9, it cannot distinguish this. However, the commercial message portion for 15 seconds does not not much exist by single shot, and two or four commercial message portions appear continuously. Therefore, when the non-voice portion for 15 seconds is detected, it distinguishes whether it is a part for a commercial message portion or a program content block by whether there is any non-voice portion for 15 seconds which continues before and after that. If it sees about the non-voice portion which appears at time of day t10 from time of day t9, it will be judged that the non-voice portion before that is 8 seconds, and it is a part for a program content block since the non-voice portion following it is 11 seconds.
[0072] Moreover, the non-voice portion which appears at time of day t10 from time of day t9 can be judged to be a part for a program content block also by taking the OR of a fade-out partial signal and the signal of a non-voice

portion.
[0073] In addition, distinction of CM portion is attained by using the mode distinction machine 24 together in addition to the method of starting.
[0074] By the method which detects a video-signal change portion, since a screen changes, and it does not come to accept it but fade-out can also be distinguished, highly precise distinction can be performed.
[0075] On the other hand, since there is much amount of data and the burden of a microcomputer 13 becomes large by the method which detects a video-signal change portion like [it is ****** and] from drawing 2 , in order to mitigate the burden of a microcomputer 13, the method which detects a fade-out portion is more desirable. Especially, this fade-out method is effective in U.S. inside.
[0076] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal or a video signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.
[0077] Moreover, since CM information is memorized to the store circuit inside the main part of equipment, the skip playback of it is easily attained by checking the content of this store circuit.
[0078] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.
[0079] Moreover, since a commercial message portion is distinguished also from a video signal, CM portion can be distinguished more to accuracy.
[0080] Moreover, in case a commercial message portion is distinguished from a video signal, a commercial message portion can be further distinguished with high degree of accuracy by using the change portion of a video signal.
[0081] Moreover, in case a commercial message portion is distinguished from a video signal, compared with the case where the change portion of a video signal is used, the processing can be facilitated by using the fade-out portion of a video signal.
[0082] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.
[0083] Next, other examples of this invention are explained using drawing 3 . Drawing 3 is the block diagram of the image record regenerative apparatus by other examples of this invention. The same sign as the example of drawing 1 shows the same portion.
[0084] Differing from the 1st example is the point of not using CM decision means by the video signal.
[0085] First, a magnetic tape is inserted and the case where the television broadcasting in which CM exists is recorded is explained. The electric wave of television broadcasting is inputted into an antenna 21, and is supplied to a tuner 20. The program of hope is tuned in in a tuner 20. The program tuned in in the tuner 20 is outputted as a sound signal in the sound signal processing circuit 10. Moreover, in the video-signal processing circuit 17, it is outputted as a video signal. When recording this sound signal and video signal on a magnetic tape 1, a sound signal and a video signal are supplied to a switch 6, and are recorded on a magnetic tape 1 by the magnetic head 4. The recognition number of the tape is also recorded on a magnetic tape 1 at a recording start and coincidence with the time code which is the positional information of a tape in the tape positional information R/W circuit 14. This information codes and writes to the blanking portion of a video signal etc., and is ******.
[0086] On the other hand, in the sound signal processing circuit 10, the signal outputted as a sound signal is supplied to the sound signal level detector 9. The sound signal level detector 9 detects the magnitude of the level of a sound signal, and supplies the magnitude of level to the non-voice partial detector 11. The non-voice partial detector 11 detects the point that sound signal level becomes near zero, and supplies a detecting signal to a microcomputer 13.
[0087] A microcomputer 13 memorizes the time of day of this detecting signal supplied from the non-voice partial detector 11, and the positional information of the tape supplied from the tape positional information R/W circuit 14, and measures the time interval of a detecting signal from the time of day of a next detecting signal, and when the gap is a fixed gap, it is judged that it is CM. The tape positional information supplied from the tape positional information R/W circuit 22 is also memorized in a microcomputer 13 at the same time the detecting signal by the sound signal is outputted.
[0088] When it is judged as CM with a sound signal, the tape positional information and the tape recognition number of termination of initiation of CM and CM are supplied to CM information storage circuit 12. CM information storage circuit 12 memorizes a tape recognition number and tape positional information as CM information. CM information storage circuit 12 which memorizes this CM information is like semiconductor memory, such as EEPROM and RAM, or a magnetic tape. That is, the positional information of CM is serially memorized to CM information store circuit 12 at the time of record, recording a program.
[0089] Next, in reproducing the recorded program, it reads the tape positional information and the tape recognition number written in a magnetic tape 1 by the tape positional information R/W circuit 14. The tape positional information and the tape recognition number which were read are supplied to a microcomputer 13. Refer to the CM positional information of the tape under playback memorized in CM information storage circuit 12 by the tape recognition number for a microcomputer 13.
[0090] If a microcomputer 13 becomes CM portion from the tape positional information under playback about CM portion and a program portion [based on CM positional information referred to from CM information storage circuit 12], a rapid traverse or the Hayami playback is directed to make CM portion skip in the tape drive circuit 15. According to the directions, the tape drive circuit 15 drives a motor 8, and carries out high-speed transit of the

magnetic tape 1.
[0091] A microcomputer 13 calculates the number of the control pulses which exist even in a termination location from the starting position of CM from CM information, and measures the control pulse supplied from the control pulse R/W circuit 22 from CM initiation portion. If the number with which the number of the measured control pulses exists in CM portion is reached, a microcomputer 13 takes out directions to the tape drive circuit 15 so that a rapid traverse or the Hayami playback may be returned to a stop and standard playback, and the tape drive circuit 15 will drive a motor 8, and will carry out standard playback transit of the magnetic tape. Next CM portion is skipped similarly. CM portion and a program portion are distinguished as mentioned above, and only CM is made to skip.
[0092] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.
[0093] Moreover, although the element which judges CM decreases compared with the 1st example, circuit magnitude can also be constituted small and the memory which accumulates the information on the singular point at the time of distinguishing CM can also be constituted few.
[0094] Moreover, since CM information is memorized to the store circuit inside the main part of equipment, the skip playback of it is easily attained by checking the content of this store circuit.
[0095] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.
[0096] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.
[0097] Next, the example of others of this invention is explained using drawing 4 . Drawing 4 is a block diagram explaining the example of others of this invention. The same sign as the example of drawing 1 shows the same portion.
[0098] Differing from the 1st example is a point which a means to memorize CM information writes in the magnetic tape with which not an enternal memory means but programs, such as a semiconductor, are recorded.
[0099] As the 1st example mentioned above explained, in a microcomputer 13, CM is distinguished with a sound signal and a video signal at the time of record of a program. In order to record the positional information of distinguished CM on a magnetic tape 1 after record termination, it is directed that a microcomputer 13 rewinds a tape in the tape drive circuit 15. The tape drive circuit 15 makes a motor 8 drive, and records CM information for a magnetic tape 1 by rewinding and CM information R/W circuit 19. CM positional information of a magnetic tape 1 is first read by CM information R/W circuit 19, the information is accumulated in the microcomputer 13 interior, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid traverse etc., in case it reproduces.
[0100] The location which records CM information is explained using drawing 5 .
[0101] Drawing 5 is the mimetic diagram of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.
[0102] In the example of drawing 5 , the portion which stores CM information in the volume first portion of a magnetic tape 1 is prepared, and CM information on all programs is stored there. In the case of this example, the information on Program A and Program B is recorded on a head portion (shadow area). CM positional information start signal is recorded on the control truck of the head portion of a magnetic tape 1, and CM positional information is recorded on the main part record portion of a magnetic tape 1 following this CM positional information start signal. The head broth signal is recorded on the control truck of the head of Programs A and B.
[0103] The content of record of CM positional information is the information about CM portion located between Programs A and B and each which have been illustrated to drawing 5 . That is, about Program A, they have been the information on the time amount length of a program A-1, the information on the time amount length of CM following it, the information on the time amount length of a program A-2, the information on the time amount length of CM following it, and the information on the time amount length of a program A-3. Furthermore, they are collectively recorded by the information on time amount ** of the program B-1 about the program B following it, the information on the time amount length of CM following it, the information on the time amount length of a program B-2, and the information on the time amount length of CM following it.
[0104] When it becomes CM portion by comparison with the tape positional information which once rewinds a magnetic tape 1 to a head location in case it reproduces, detects CM positional information start signal, usually reads CM positional information of a magnetic tape 1 by CM information R/W circuit 19 playback after that, accumulates the information in the microcomputer 13 interior, and is read by the tape positional information R/W circuit 14 from a magnetic tape 1 while reproducing a program, CM portion is made to skip with a rapid traverse etc.
[0105] Once it reads CM information on top according to this example, CM information on all programs can be grasped.
[0106] Moreover, since CM information is recorded on the head portion of a tape, also when overwrite is carried out, all CM information can be rewritten anew.
[0107] Drawing 6 is the mimetic diagram of other examples of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.
[0108] In the example of drawing 6 , CM information is recorded on the head portion for every image transcription

program. In the case of this example, the information on Program A and Program B is recorded on the head portions (shadow area) of Program A and Program B, respectively. CM positional information start signal is recorded on the head portion of each program of the control truck of a magnetic tape 1, and CM positional information is recorded on the main part record portion of a magnetic tape 1 following this CM positional information start signal. The head broth signal is recorded on the control truck of each head of Programs A and B.

[0109] The content of record of CM positional information is the information about CM portion located between Programs A and B and each which have been illustrated to drawing 6 . That is, about Program A, they have been the information on the time amount length of a program A-1, the information on the time amount length of CM following it, the information on the time amount length of a program A-2, the information on the time amount length of CM following it, and the information on the time amount length of a program A-3. Moreover, about Program B, the information on time amount ** of a program B-1, the information on the time amount length of CM following it, the information on the time amount length of a program B-2, and the information on the time amount length of CM following it are recorded, respectively.

[0110] When it becomes CM portion by comparison with the tape positional information which rewinds a magnetic tape 1 to the head location of each program in case it reproduces, detects CM positional-information start signal, usually reads CM positional information of a magnetic tape 1 by CM information R/W circuit 19 playback after that, accumulates the information in the microcomputer 13 interior, and is read by the tape positional-information R/W circuit 14 from a magnetic tape 1 while reproducing a program, CM portion is made to skip with a rapid traverse etc.

[0111] According to this example, in order for what is necessary just to be to rewind to the head of each program, there are few amounts of rewinding compared with the above-mentioned example, it ends, and operability is good.

[0112] In this case, the amount which rewinds the tape after record termination can be managed with the minimum. However, when overwrite etc. is carried out, there is a possibility that CM information may disappear.

[0113] On the other hand, in the example shown in drawing 5 , since it is the head portion of a tape, also when overwrite is carried out, all CM information can be rewritten anew.

[0114] Drawing 7 is the mimetic diagram of the example of others of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.

[0115] In the example of drawing 7 , CM point start signal and CM terminate signal are recorded on the control truck before and behind CM portion for every image transcription program as a CM information signal. The head broth signal is recorded on the control truck of each head of Programs A and B. The content of record of CM positional information is that of each showing the starting position and termination location of CM.

[0116] CM positional information of a magnetic tape 1 is read by CM information R/W circuit 19, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid traverse etc., usually playing a magnetic tape 1, in case it reproduces.

[0117] In this case, since the start signal and terminate signal of CM cannot be driven in during program record, based on CM positional information judged after program record termination and during record, with a microcomputer 13, the tape drive circuit 15 is directed, a motor 8 is driven, and a start signal and a terminate signal are driven into a rewinding starting position and a termination location to CM location. By reading this CM start signal at the time of playback, CM portion is fast forwarded and it returns to standard playback in the phase which read CM terminate signal. It is not necessary to rewind in order to read CM information to the head.

[0118] According to this example, by reproducing ordinarily, since it is not necessary to rewind a magnetic tape and can skip automatically, operability is good.

[0119] Even if it makes it which [which was mentioned above / three] method, when writing CM information in a magnetic tape, the reorganization collection of the tape must be again rewound and carried out after record termination.

[0120] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal or a video signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.

[0121] Moreover, as mentioned above, only when playing the magnetic tape recorded by this method with the equipment which recorded that tape, it can use by the method which uses CM information store circuit, but also when the magnetic tape with which CM information was memorized is played with other equipments according to this example, Hayami playback etc. can skip by carrying out CM portion appropriately by reading the information on a head location.

[0122] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.

[0123] Moreover, since a commercial message portion is distinguished also from a video signal, CM portion can be distinguished more to accuracy.

[0124] Moreover, in case a commercial message portion is distinguished from a video signal, a commercial message portion can be further distinguished with high degree of accuracy by using the change portion of a video signal.

[0125] Moreover, in case a commercial message portion is distinguished from a video signal, compared with the case where the change portion of a video signal is used, the processing can be facilitated by using the fade-out portion of a video signal.

[0126] Moreover, precision is raised further, next by carrying out by combining distinction by broadcast mode explains other examples to the pan of this invention using drawing 8 . Drawing 8 is a block diagram which explains other examples to the pan of this invention. The same sign as the example of drawing 2 shows the same portion.
[0127] Differing from the 2nd example is a point which a means to memorize CM information writes in the magnetic tape with which not an enternal memory means but programs, such as a semiconductor, are recorded.
[0128] In a microcomputer 13, CM is distinguished like the 2nd example mentioned above with a sound signal at the time of record of a program. In order to record the positional information of distinguished CM on a magnetic tape 1 after record termination, it directs that a microcomputer 13 rewinds a magnetic tape 1 in the tape drive circuit 15, and the tape drive circuit 15 makes a motor 8 drive, and records CM information for a magnetic tape 1 by rewinding and CM information R/W circuit 19.
[0129] CM positional information of a magnetic tape 1 is accumulated in the readout, it accumulates the information in the microcomputer 13 interior by CM information R/W circuit 19, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid traverse etc., in case it reproduces. As the location which writes in the information on CM was mentioned above, it is the head location of a magnetic tape, or is a part for the introduction of a program, or positional information drives the start signal and terminate signal of CM into a control truck, without writing in.
[0130] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.
[0131] Moreover, since distinguished CM positional information is recorded on the magnetic tape itself instead of the exterior, CM can be made to skip similarly in a magnetic recorder and reproducing device with this function.
[0132] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.
[0133] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.
[0134]
[Effect of the Invention] According to this invention, even if broadcast mode is the same, a commercial message portion can be distinguished.

[Translation done.]

* NOTICES *

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2.**** shows the word which can not be translated.
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TECHNICAL FIELD

[Industrial Application] This case starts an image record regenerative apparatus, especially carries out record playback of the television broadcasting signal, and is related with the image record regenerative apparatus which distinguishes a part for a commercial message portion and a program content block in a program.

[Translation done.]

PRIOR ART

[Description of the Prior Art] The image record regenerative apparatus which deletes a commercial message portion and records a part for a commercial message portion and a program content block in distinction from the time of recording a television broadcasting signal from this television broadcasting signal is known. As this equipment, the two-language broadcast mode distinction method given in JP,3-158086,A, the stereophonic broadcasting mode distinction method given in JP,3-262287,A, etc. are learned, for example.

[0003] Since the stereophonic broadcasting of the commercial message is carried out to JP,3-158086,A by the method of a publication, the two-language broadcast mode contained in the sound signal of television broadcasting is distinguished, a part for the program content block in two-language broadcast mode and the commercial message portion in stereophonic broadcasting mode are distinguished, automatic deletion only of the commercial message (CM) portion is carried out, and a part for the program content block in two-language broadcast mode is recorded.

[0004] Moreover, by the method given in JP,3-262287,A, the stereophonic broadcasting mode contained in the sound signal of television broadcasting is distinguished, a part for the program content block in stereophonic broadcasting mode and the commercial message portion in monophonic broadcast mode are distinguished, automatic deletion only of the commercial message portion is carried out, and a part for the program content block in stereophonic broadcasting mode is recorded.

[Translation done.]

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EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, even if broadcast mode is the same, a commercial message portion can be distinguished.

[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, in the conventional technology mentioned above, if it is in a two-language broadcast mode distinction method, when the amount of program content blocks are a monophonic program and a stereo broadcast, automatic deletion of CM portion cannot be performed. Moreover, in the case of a stereophonic broadcasting mode distinction method, since it is premised on CM being monophonic broadcast from the first, when the CM itself is stereophonic broadcasting, distinction with a stereo broadcast does not stick again.
[0006] Therefore, if it was in the conventional method, there was a problem that both distinction did not stick according to a difference of the broadcast mode of two-language broadcast, monophonic broadcast, and stereophonic broadcasting when a part for a program content block and a commercial message portion are in same broadcast mode, since it is what is going to distinguish a part for two kinds of program content blocks.
[0007] If two-language broadcast and stereophonic broadcasting are taken in to a film program, a music program, a sports program, a drama program, or other general programs and the amount of program content block is also in the conventional method especially in recent years, a possibility that only a commercial message portion can be deleted falls and it is becoming impossible to use it practical.
[0008] Even if the object of this invention has the same broadcast mode, it is to offer the image record regenerative apparatus which can distinguish a commercial message portion.

[Translation done.]

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MEANS

[Means for Solving the Problem] In an image record regenerative apparatus which has a record playback means for this invention to record a television broadcasting signal on a record medium, and to reproduce a television broadcasting signal from this record medium in order to attain the above-mentioned object A non-voice partial detection means to detect a non-voice portion from a sound signal in this television signal at the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means, A commercial message partial detection means by which a time interval between two or more non-voice portions detected by this non-voice partial detection means detects a commercial message portion in the above-mentioned television broadcasting signal, A storage means to memorize information on a record location to the above-mentioned record medium of a commercial message portion detected by this commercial message partial detection means, At the time of playback of the above-mentioned television broadcasting signal from the above-mentioned record medium by the above-mentioned record playback means It is based on information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned storage means. In a record location to the above-mentioned record medium of the above-mentioned commercial message portion, it has a control means which controls playback from the above-mentioned record medium to skip this commercial message portion and to reproduce.

[0010] In the above-mentioned image record regenerative apparatus preferably At furthermore, the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a video-signal detection means to detect a changing point of a video signal to a video signal in this television signal. The above-mentioned commercial message partial detection means Based on a time interval between two or more non-voice portions detected by the above-mentioned silent voice partial detection means and the above-mentioned video-signal detection means, and a time interval between changing points of two or more video signals, a commercial message portion in the above-mentioned television broadcasting signal is detected.

[0011] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level turns into black level, as a changing point of the above-mentioned video signal.

[0012] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level turns into a white level, as a changing point of the above-mentioned video signal.

[0013] In the above-mentioned image record regenerative apparatus, a commercial message partial detection means of the above 2nd detects preferably a point that video-signal level changes a lot, as a changing point of the above-mentioned video signal.

[0014] In the above-mentioned image record regenerative apparatus, the above-mentioned storage means consists of semiconductor memory preferably.

[0015] Be made to let the above-mentioned storage means be the above-mentioned record medium on which the above-mentioned television broadcasting signal is recorded by the above-mentioned record playback means preferably in the above-mentioned image record regenerative apparatus.

[0016] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in a head location of the above-mentioned record medium.

[0017] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in each head location of two or more television signals recorded on the above-mentioned record medium.

[0018] In the above-mentioned image record regenerative apparatus, information on a record location to the above-mentioned record medium of the above-mentioned commercial message portion memorized by the above-mentioned record medium with the above-mentioned storage means is preferably memorized in a head location and a termination location of a commercial message portion which are included in two or more television signals recorded on the above-mentioned record medium.

[0019] In the above-mentioned image record regenerative apparatus preferably At furthermore, the time of record of the above-mentioned television broadcasting signal by the above-mentioned record playback means It has a mode distinction means to detect a commercial message portion in the above-mentioned television broadcasting

signal based on a difference of broadcast mode with a part for a program content block and a commercial message portion in this television signal. The above-mentioned commercial message partial detection means With the above-mentioned silent voice partial detection means, the above-mentioned video-signal detection means, and the above-mentioned mode distinction means Based on a difference of a time interval between two or more detected non-voice portions, a time interval between changing points of two or more video signals, and broadcast mode, a commercial message portion in the above-mentioned television broadcasting signal is detected.

[0020] It is made to judge preferably that the above 1st and the 2nd commercial message partial detection means are commercial message portions when a detected time interval is the multiple which is about N seconds in the above-mentioned image record regenerative apparatus.

[0021] It is made to judge preferably that the above 1st and the 2nd commercial message partial detection means are commercial message portions when two or more time intervals of a multiple for about N seconds are detected continuously in the above-mentioned image record regenerative apparatus.

[Translation done.]

OPERATION

[Function] A non-voice partial detection means to detect a non-voice portion from the sound signal in this television signal in this invention at the time of record of the television broadcasting signal by the record playback means, A commercial message partial detection means by which the time interval between two or more non-voice portions detected by this non-voice partial detection means detects the commercial message portion in a television broadcasting signal, A storage means to memorize the information on the record location to the record medium of the commercial message portion detected by this commercial message partial detection means, At the time of playback of the television broadcasting signal from the record medium by the record playback means It is based on the information on the record location to the record medium of the commercial message portion memorized by the storage means. By having the control means which controls the playback from a record medium by the record location to the record medium of a commercial message portion to skip this commercial message portion and to reproduce Since a commercial message portion is skipped and it can reproduce using the time interval of the non-voice portion of the sound signal in a television signal, even if broadcast mode is the same, a commercial message portion is distinguished and it can reproduce.

[0023] Moreover, the thing for which it has a video-signal detection means to detect the changing point of a video signal to the video signal in this television signal, at the time of record of the television broadcasting signal by the record playback means, Since a commercial message partial detection means detects the commercial message portion in a television broadcasting signal based on the time interval between two or more non-voice portions detected by the non-voice partial detection means and the video-signal detection means, and the time interval between the changing points of two or more video signals, it can distinguish a commercial message portion to accuracy more.

[0024] Furthermore, the 2nd commercial message partial detection means can distinguish a changing point easily by detecting the point that video-signal level turns into black level, as a changing point of a video signal.

[0025] Moreover, the 2nd commercial message partial detection means can distinguish a changing point easily like black level by detecting the point that video-signal level turns into a white level, as a changing point of a video signal.

[0026] Furthermore, the 2nd commercial message partial detection means can distinguish changing points also including a fade-out portion by detecting the point that video-signal level changes a lot, as a changing point of a video signal.

[0027] Moreover, a storage means may make storage possible by constituting from semiconductor memory at the time of record.

[0028] Furthermore, by considering as the record medium on which a television broadcasting signal is recorded by the record playback means, a storage means can use the existing record medium, and even if a new storage means is not used for it, it can be managed by it.

[0029] Moreover, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means can rewrite all information anew by memorizing in the head location of a record medium also in the case of overwrite.

[0030] Furthermore, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means may lessen the amount of rewinding of the record medium after record termination by memorizing in each head location of two or more television signals recorded on a record medium.

[0031] Moreover, the information on the record location to the record medium of the commercial message portion memorized by the record medium with a storage means may carry out skip playback as it is from the present location at the time of playback by memorizing in the head location and termination location of a commercial message portion which are included in two or more television signals recorded on a record medium.

[0032] At furthermore, the time of record of the television broadcasting signal by the record playback means By having a mode distinction means to detect the commercial message portion in a television broadcasting signal based on the difference of broadcast mode with a part for a program content block and the commercial message portion in this television signal A commercial message partial detection means With a non-voice partial detection means, a video-signal detection means, and a mode distinction means By detecting the commercial message portion in a television broadcasting signal based on a difference of the time interval between two or more detected non-voice portions, the time interval between the changing points of two or more video signals, and broadcast mode It is more accurate and a commercial message portion can be distinguished.

[0033] Moreover, the 1st and 2nd commercial message partial detection means can distinguish a commercial message portion easily by judging that it is a commercial message portion, when the detected time interval is the multiple which is about N seconds.
[0034] Furthermore, the 1st and 2nd commercial message partial detection means can distinguish a commercial message portion with a sufficient precision by judging that it is a commercial message portion, when two or more time intervals of the multiple for about N seconds are detected continuously.

[Translation done.]

EXAMPLE

[Example] One example of this invention is explained using drawing 1 . Drawing 1 is the block diagram of the image record regenerative apparatus by one example of this invention.
[0036] The magnetic head 4 is attached in two rotating cylinders 5. A magnetic tape 1 is wound around a rotating cylinder 5, and a television broadcasting signal is recorded by the magnetic head 4, and it is played. The regenerative signal which continued in time is acquired by using the two magnetic heads 4, switching by the magnetic-head transfer switch 6. The magnetic-head transfer switch 9 chooses and switches the regenerative signal of the side which has touched to a magnetic tape 1 here according to whether which one has touched between two rotary heads. As for this timing, it is common to detect and obtain the magnetic field which the magnet (not shown) attached in the rotating cylinder 5 makes by the sensor (not shown).
[0037] The magnetic tape 1 is usually sent with constant speed, and this speed is controlled by the capstan 2 which countered with the pinch roller 3 and has been arranged. The magnetic tape drive motor 8 is used for actuation of a capstan 2, and actuation of the take up reel which rolls round a magnetic tape 1, and has a rotational frequency controlled according to the modes, such as usual transit of a magnetic tape 1, and rapid-traverse transit.
[0038] Moreover, although the control pulse for being used for the various control other than the usual television broadcasting signal is also recorded on a magnetic tape 1, this record is performed using the arm head 7 for control pulses. A control pulse is recorded every [1/] 30 seconds.
[0039] Here, the case where the television broadcasting signal with which CM exists is recorded is explained.
[0040] The signal of television broadcasting is inputted into an antenna 21, and is supplied to a tuner 20. The program of hope is tuned in in a tuner 20. Through the magnetic-head transfer switch 9, it is sent to the two magnetic heads 4 by turns, and is recorded on a magnetic tape 1 while transform processing of the program tuned in in the tuner 20 is carried out in the sound signal processing circuit 10 and it is outputted as a sound signal of a RF signal. Moreover, while transform processing is carried out in the video-signal processing circuit 17 and outputted as a video signal of baseband, through the magnetic-head transfer switch 9, it is sent to the two magnetic heads 4 by turns, and is recorded on a magnetic tape 1.
[0041] The recognition number of the tape is also recorded on a magnetic tape 1 through the magnetic head 4 by the command from a microcomputer 13 at a recording start and coincidence in the tape positional information R/W circuit 14 with the time code which is the positional information of a tape. This information is coded and written in each V blanking portion of a video signal etc. The recognition number of a tape is a number which gives 99 titles compulsorily with the directions from a microcomputer 13 for every magnetic tape.
[0042] On the other hand, the signal outputted as a sound signal in the sound signal processing circuit 10 is supplied to the sound signal level detector 9. The magnitude of the level of a sound signal is detected in the sound signal level detector 9. The sound signal level detector 9 consists of smoothing circuits, carries out smoothness of the sound signal of low frequency, and takes out a direct current signal.
[0043] The magnitude of the level detected by the sound signal level detector 9 is supplied to the non-voice partial detector 11. In the non-voice partial detector 11, the point that sound signal level becomes near zero is detected, and a detecting signal is supplied to a microcomputer 13. The non-voice partial detector 11 is constituted by the comparison circuit, and as compared with this reference voltage, when the level of a sound signal is larger than reference voltage, it outputs level"1" for the level of the sound signal which inputted reference voltage as slightly larger level than 0V or this. When the level of a sound signal is smaller than reference voltage, it may be made to output level"1" here by carrying out the internal organs of the NOT circuit to this circuit.
[0044] The output of the non-voice partial detector 11 is incorporated by the microcomputer 13. In a microcomputer 13, the time of day of this detecting signal supplied from the non-voice partial detector 11 and the positional information of the tape supplied from the tape positional information R/W circuit 14 are memorized, and the time interval of a detecting signal is measured from the time of day of a next detecting signal, and when the gap of this detecting signal and a next detecting signal is a fixed time interval, it is judged that it is CM. The positional information of a tape is the information on the time code which is equivalent to an absolute address (absolute time) and Z X for Y seconds per part from the head location of a tape. About the method of judging to be CM, it mentions later using drawing 2 .
[0045] In addition, although the non-voice partial detector 11 was explained as a circuit of another configuration, it incorporates the signal of the sound signal level detector 9 in the direct microcomputer 13, and performs A/D change, and you may make it detect a non-voice portion within a microcomputer 13 on it in a microcomputer 13 as compared with reference voltage, since the latest microcomputer 13 is carrying out the internal organs of the A/D

converter of two or more channels.
[0046] On the other hand, in the video-signal processing circuit 17, the signal outputted as a video signal of baseband is supplied to the video-signal level detector 16. This video-signal level detector 16 equalizes the signal level of the point that video-signal level carries out fade-out, and turns into black level or a white level, or a screen, and detects changing points, such as a point (a scene changing point) that signal level changes a lot. The video-signal level detector 16 consists of for example, frame integrating circuits. The trigger of the frame integrating circuit is carried out based on the Vertical Synchronizing signal (V-sync) in a video signal, and it integrates with the video signal for one frame. By this, the average level of the video signal of the video signal for one frame is called for, and the magnitude of the level of a video signal is detected. The magnitude of the level of the video signal detected by the video-signal level detector 16 is supplied to the video-signal detector 18.
[0047] As for the video-signal detector 18, this called-for average level is compared with the reference voltage of a comparison circuit. Here, when the signal by which the frame integral was carried out by considering as voltage somewhat higher than black level as reference voltage is higher than reference voltage, a comparison circuit judges that it is black level, and outputs. Of course, when lower than reference voltage, you may make it the signal by which the frame integral was carried out using the NOT circuit output a comparison circuit.
[0048] Moreover, when the signal by which the frame integral was carried out by considering as voltage somewhat lower than a white level as reference voltage is higher than reference voltage, a comparison circuit judges that it is a white level, and outputs.
[0049] Moreover, what is necessary is to constitute from a differential circuit and a comparison circuit, to differentiate signal level by the differential circuit as a video-signal detector 18, and just to constitute so that a comparison circuit may detect whether the differential value is larger than a reference value in order to detect the point (a scene changing point) that signal level changes a lot.
[0050] In U.S. inside, it is common to carry out fade-out before and after a commercial message portion, and the change rate of a scene is common in Japan. However, in Japan, since the level of a signal changes before and behind that when fade-out is carried out by using the method which detects the point (a scene changing point) that may carry out fade-out, and signal level changes a lot such even case, it can distinguish like a scene change rate.
[0051] In addition, it is not necessary to be necessarily one frame, and since what is necessary is just to detect the changing point of a scene, you may make it integrate it with the signal only near the center of a screen in short, for example, although the above explanation shall be integrated with the video signal for one frame. For example, in order to integrate with the video signal of the horizontal scanning segment from 100 Motome to 150 Motome, a trigger is hung so that an integrating circuit may be operated after predetermined time from this signal based on a Vertical Synchronizing signal (V-sync), and only predetermined time should be made to carry out integral control action after that.
[0052] Moreover, although the comparison circuit was explained as a circuit of another configuration in the microcomputer 13, the latest microcomputer 13 incorporates the signal of an integrating circuit in the direct microcomputer 13, and performs A/D change, and it compares with reference voltage within a microcomputer 13, or it compares inter-frame average level, and you may make it detect the changing point of a video signal on it, since the internal organs of the A/D converter of two or more channels are carried out.
[0053] The video-signal detector 18 supplies a detecting signal to a microcomputer 13. A microcomputer 13 measures the time interval of a detecting signal from the time of day of this detecting signal and the time of day of a next detecting signal which were supplied from the video-signal detector 18, and when the time interval of this detecting signal and a next detecting signal is a fixed gap, it is judged that it is CM. About the method of judging to be CM, it mentions later using drawing 2 . The tape positional information supplied from the tape positional information R/W circuit 22 is also memorized to a microcomputer 13 at the same time the detecting signal by the sound signal and the video signal is outputted.
[0054] According to the feature of the signal of the above-mentioned sound signal and a video signal, when it is judged as CM using both distinction by the change portions or fade-out portions of distinction and a video signal by the signal of a non-voice portion, the tape positional information and the tape recognition number of termination of initiation of CM and CM are supplied to CM information store circuit 12. CM information storage circuit 12 memorizes a tape recognition number and tape positional information as CM information. CM information storage circuit 12 which memorizes this CM information is like semiconductor memory, such as EEPROM and RAM, or a magnetic tape. That is, the positional information of CM is serially memorized to CM information store circuit 12 at the time of record, recording a program.
[0055] In addition, while a judgment of CM is made as mentioned above, the sound signal and the video signal are recorded on the magnetic tape 1 through the magnetic head 4 like the usual video-signal recording device. Under the present circumstances, a part for all program content blocks and a commercial message portion are recorded, without performing deleting and recording CM portion which was stated with the conventional technology. And a commercial message portion is skipped at the time of playback, and it reproduces at it.
[0056] Next, the case where the recorded program is reproduced is explained. At the time of playback, reading appearance of the tape recognition number is carried out to the tape positional information written in a magnetic tape 1 by the tape positional information R/W circuit 14. The tape positional information and the tape recognition number which were read are supplied to a microcomputer 13. Refer to the CM positional information of the tape under playback memorized in CM information storage circuit 12 for a microcomputer 13 based on a tape recognition number.

[0057] If a microcomputer 13 becomes CM portion from the tape positional information under playback about CM portion and a program portion [based on CM positional information referred to from CM information storage circuit 12], a rapid traverse or the Hayami playback is directed to make CM portion skip in the tape drive circuit 15.
[0058] In a rapid traverse, a video signal and a sound signal are unreproducible from a magnetic tape 1. From the screen of a television receiver the original commercial message portion is skipped — or, although it is unknown in whether a part for a program content block is skipped and is an image with reproduction speed early in the Hayami playback on the other hand once, since it appears as a screen, the commercial message portion is skipped — or it is desirable to consider it as the Hayami playback to such needs, since a user can identify whether a part for a program content block is skipped.
[0059] According to the directions, the tape drive circuit 15 drives a motor 8, and carries out high-speed transit of the magnetic tape 1. A microcomputer 13 calculates the number of the control pulses which exist even in a termination location from the starting position of CM from CM information, and measures the control pulse supplied from the control pulse R/W circuit 22 from CM initiation portion. If the number with which the number of the measured control pulses exists in CM portion is reached, a microcomputer 13 will take out directions to the tape drive circuit 15 so that a rapid traverse or the Hayami playback may be returned to a stop and standard playback. The tape drive circuit 15 drives a motor 8, and carries out standard playback transit of the magnetic tape 1. At the time of high-speed transit, from the magnetic tape 1, since positional information cannot be read, it is measuring the travel (time amount of CM portion) of a tape using a control pulse.
[0060] Next CM portion is skipped similarly. CM portion and a program portion are distinguished as mentioned above, and only CM is made to skip. It decides whether carry out CM skip of the CM skip on/off switch 23 by decision of a user, or not carry out, and when this switch is ON, the signal of ON is supplied to a microcomputer 13, and it is directed in a tape drive circuit that a microcomputer 13 performs CM skip which mentioned above. When this switch is OFF, the signal of OFF is supplied to a microcomputer 13, and a microcomputer 13 does not perform CM skip mentioned above, but is reproduced like [a commercial message portion] a part for a program content block.
[0061] moreover, the conventional technology described the broadcast mode distinction machine 24 — it is CM distinction means by broadcast mode distinction, and distinguishes from other two-language programs and monophonic programs based on a commercial message portion being stereophonic broadcasting. It is only distinguishing a commercial message portion and this broadcast mode distinction machine 24 does not perform deleting record based on the signal of this broadcast mode distinction machine 24. If the signal of this broadcast mode distinction machine 24 is used together with the non-voice partial detector 11 and the video-signal detector 18 and is performed, it will become possible to perform CM distinction with a more high precision.
[0062] Next, the CM distinction method is explained using drawing 2 .
[0063] In drawing 2 , the thick continuous line displayed as the record signal expresses the time-axis. To the timing of Downarrow indicated on this record signal, the portion (non-voice portion) from which voice level becomes zero is detected by the non-voice partial detector 11, and is incorporated by the microcomputer 13. Here, the non-voice portion is detected at time of day t1, t2, t3, t4, t5, t6, t7, t8, t9, t10, and t11. A microcomputer 13 measures each time interval.
[0064] CM is made from the fixed gap (the multiple for 15 seconds or 15 seconds, for example, 15 seconds, 30 seconds, 60 seconds), uses that a non-voice portion exists before and after that CM further, and judges the portion from which the gap of this non-voice portion becomes fixed to be CM portion. Naturally, although a non-voice portion exists also in a program portion, the gap does not serve as constant value, unless it means. It is judged with a program that the gap of a non-voice portion becomes more than a fixed gap or below a fixed gap at least. While recording a program on a magnetic tape 1, it is measured in the microcomputer 13 interior and goes, and serially, a non-voice portion is memorized and marked on CM information storage circuit 12 from a microcomputer 13, further, it carries out the reorganization collection of the gap portion after record termination, distinguishes a program portion and CM portion, and memorizes them in CM information storage circuit 12.
[0065] in addition, the time interval between non-voice portions — accuracy — 15 seconds — ********** . The time amount of a non-voice portion itself is because there is usually about 500ms or more. Although this time amount changes with CMs, even if short, it is for 200ms. Therefore, in the case of 14.5 seconds - 15.0 seconds, the case of 29.5 seconds - 30.0 seconds, and in the case of 59.5 seconds - 60.0 seconds, the time interval between non-voice portions distinguishes from CM portion. Although the case where the time interval of CM portion is short can also be distinguished as it is CM portion if this time interval is extended, a part for an original program content block may be used as CM portion a misjudgment exception in that case.
[0066] Measurement of the time interval by the microcomputer 13 here For example =50sec, (t2-t1) =65sec, (t3-t1) =15sec, (t3-t2) =30sec, (t4-t2) =15sec, (t4-t3) =45sec, (t5-t2) =30sec, (t5-t3) =15sec, (t5-t4) =115sec, (t6-t2) =100sec, (t6-t3) =85sec, (t6-t4) =70sec, (t6-t5) =15sec, (t7-t6) =30sec, (t8-t6) =15sec, (t8-t7) =38sec, (t9-t6) =23sec, (t9-t7) =8sec, (t9-t8) =53sec, (t10-t6) =38sec, (t10-t7) (t10-t8) It is carried out like =23sec, =(t10-t9) 15sec, =(t11-t6)64sec, =(t11-t7)49sec, =(t11-t8)34sec, =(t11-t9)26sec, and =(t11-t10)11sec.
[0067] That is, the time interval of the next door and a non-voice portion is also further measured only in addition to a ****** non-voice portion. This is because distinction of a commercial message portion is not attached by that a non-voice portion is contained also in 15 seconds or in the commercial message portion of the time amount of this multiple only with the time interval of a ****** non-voice portion for a certain reason, either. Then, to the non-voice portion of time of day t1, time difference with time of day t2 and t3 is measured. On the other hand, since there is no commercial message portion of the length for 60 seconds or more when the time interval of a non-voice

portion and a non-voice portion exceeds 60 seconds, and measurement of the time difference beyond it is useless, measurement of the time difference after it is not performed. That is, if time difference with time of day t3 is measured to the non-voice portion of time of day t1, measurement of the time difference after it will not be performed.

[0068] Moreover, in drawing 2 , the downward arrow head on a non-voice portion shows the video-signal change portion. That is, the signal level of a screen is equalized and signal level measures the time interval of the point (a scene changing point) of changing a lot, like measurement of the time interval in an above-mentioned non-voice portion. The time interval of a video-signal change portion is [like / it is ****** from drawing 2 and] short compared with the time interval of a non-voice portion. While recording a program on a magnetic tape 1, a video-signal change portion is measured in the microcomputer 13 interior, goes, it carries out the reorganization collection of the gap portion after serial or record termination, and distinguishes a program portion and CM portion. Microcomputers 13 are a non-voice portion and a video-signal change portion, and can distinguish a commercial message portion to accuracy by taking conditions.

[0069] As a changing point of a video signal, a composite signal, a luminance signal, a color-difference signal, etc. carry out fade-out, the point set to black level or a white level can also be used, and the arrow head indicated on the video-signal change portion of drawing 2 shows the fade-out portion.

[0070] The method of using a fade-out portion in the recording device which the fade-out portion is generally formed before and after the commercial message portion by the broadcast signal in the United States, and is used in the United States by the broadcast signal in Japan although a non-voice portion is generally formed before and after a commercial message portion is effective.

[0071] Furthermore, although a time interval is 15 seconds, if the above-mentioned non-voice partial detector 11 and the above-mentioned video-signal detector 18 are used for the non-voice portion which appears at time of day t10 from time of day t9, it cannot distinguish this. However, the commercial message portion for 15 seconds does not not much exist by single shot, and two or four commercial message portions appear continuously. Therefore, when the non-voice portion for 15 seconds is detected, it distinguishes whether it is a part for a commercial message portion or a program content block by whether there is any non-voice portion for 15 seconds which continues before and after that. If it sees about the non-voice portion which appears at time of day t10 from time of day t9, it will be judged that the non-voice portion before that is 8 seconds, and it is a part for a program content block since the non-voice portion following it is 11 seconds.

[0072] Moreover, the non-voice portion which appears at time of day t10 from time of day t9 can be judged to be a part for a program content block also by taking the OR of a fade-out partial signal and the signal of a non-voice portion.

[0073] In addition, distinction of CM portion is attained by using the mode distinction machine 24 together in addition to the method of starting.

[0074] By the method which detects a video-signal change portion, since a screen changes, and it does not come to accept it but fade-out can also be distinguished, highly precise distinction can be performed.

[0075] On the other hand, since there is much amount of data and the burden of a microcomputer 13 becomes large by the method which detects a video-signal change portion like [it is ****** and] from drawing 2 , in order to mitigate the burden of a microcomputer 13, the method which detects a fade-out portion is more desirable. Especially, this fade-out method is effective in U.S. inside.

[0076] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal or a video signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.

[0077] Moreover, since CM information is memorized to the store circuit inside the main part of equipment, the skip playback of it is easily attained by checking the content of this store circuit.

[0078] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.

[0079] Moreover, since a commercial message portion is distinguished also from a video signal, CM portion can be distinguished more to accuracy.

[0080] Moreover, in case a commercial message portion is distinguished from a video signal, a commercial message portion can be further distinguished with high degree of accuracy by using the change portion of a video signal.

[0081] Moreover, in case a commercial message portion is distinguished from a video signal, compared with the case where the change portion of a video signal is used, the processing can be facilitated by using the fade-out portion of a video signal.

[0082] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.

[0083] Next, other examples of this invention are explained using drawing 3 . Drawing 3 is the block diagram of the image record regenerative apparatus by other examples of this invention. The same sign as the example of drawing 1 shows the same portion.

[0084] Differing from the 1st example is the point of not using CM decision means by the video signal.

[0085] First, a magnetic tape is inserted and the case where the television broadcasting in which CM exists is recorded is explained. The electric wave of television broadcasting is inputted into an antenna 21, and is supplied to a tuner 20. The program of hope is tuned in in a tuner 20. The program tuned in in the tuner 20 is outputted as a sound signal in the sound signal processing circuit 10. Moreover, in the video-signal processing circuit 17, it is

outputted as a video signal. When recording this sound signal and video signal on a magnetic tape 1, a sound signal and a video signal are supplied to a switch 6, and are recorded on a magnetic tape 1 by the magnetic head 4. The recognition number of the tape is also recorded on a magnetic tape 1 at a recording start and coincidence with the time code which is the positional information of a tape in the tape positional information R/W circuit 14. This information codes and writes to the blanking portion of a video signal etc., and is ******.

[0086] On the other hand, in the sound signal processing circuit 10, the signal outputted as a sound signal is supplied to the sound signal level detector 9. The sound signal level detector 9 detects the magnitude of the level of a sound signal, and supplies the magnitude of level to the non-voice partial detector 11. The non-voice partial detector 11 detects the point that sound signal level becomes near zero, and supplies a detecting signal to a microcomputer 13.

[0087] A microcomputer 13 memorizes the time of day of this detecting signal supplied from the non-voice partial detector 11, and the positional information of the tape supplied from the tape positional information R/W circuit 14, and measures the time interval of a detecting signal from the time of day of a next detecting signal, and when the gap is a fixed gap, it is judged that it is CM. The tape positional information supplied from the tape positional information R/W circuit 22 is also memorized in a microcomputer 13 at the same time the detecting signal by the sound signal is outputted.

[0088] When it is judged as CM with a sound signal, the tape positional information and the tape recognition number of termination of initiation of CM and CM are supplied to CM information storage circuit 12. CM information storage circuit 12 memorizes a tape recognition number and tape positional information as CM information. CM information storage circuit 12 which memorizes this CM information is like semiconductor memory, such as EEPROM and RAM, or a magnetic tape. That is, the positional information of CM is serially memorized to CM information store circuit 12 at the time of record, recording a program.

[0089] Next, in reproducing the recorded program, it reads the tape positional information and the tape recognition number written in a magnetic tape 1 by the tape positional information R/W circuit 14. The tape positional information and the tape recognition number which were read are supplied to a microcomputer 13. Refer to the CM positional information of the tape under playback memorized in CM information storage circuit 12 by the tape recognition number for a microcomputer 13.

[0090] If a microcomputer 13 becomes CM portion from the tape positional information under playback about CM portion and a program portion [based on CM positional information referred to from CM information storage circuit 12], a rapid traverse or the Hayami playback is directed to make CM portion skip in the tape drive circuit 15. According to the directions, the tape drive circuit 15 drives a motor 8, and carries out high-speed transit of the magnetic tape 1.

[0091] A microcomputer 13 calculates the number of the control pulses which exist even in a termination location from the starting position of CM from CM information, and measures the control pulse supplied from the control pulse R/W circuit 22 from CM initiation portion. If the number with which the number of the measured control pulses exists in CM portion is reached, a microcomputer 13 takes out directions to the tape drive circuit 15 so that a rapid traverse or the Hayami playback may be returned to a stop and standard playback, and the tape drive circuit 15 will drive a motor 8, and will carry out standard playback transit of the magnetic tape. Next CM portion is skipped similarly. CM portion and a program portion are distinguished as mentioned above, and only CM is made to skip.

[0092] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.

[0093] Moreover, although the element which judges CM decreases compared with the 1st example, circuit magnitude can also be constituted small and the memory which accumulates the information on the singular point at the time of distinguishing CM can also be constituted few.

[0094] Moreover, since CM information is memorized to the store circuit inside the main part of equipment, the skip playback of it is easily attained by checking the content of this store circuit.

[0095] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.

[0096] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.

[0097] Next, the example of others of this invention is explained using drawing 4 . Drawing 4 is a block diagram explaining the example of others of this invention. The same sign as the example of drawing 1 shows the same portion.

[0098] Differing from the 1st example is a point which a means to memorize CM information writes in the magnetic tape with which not an enternal memory means but programs, such as a semiconductor, are recorded.

[0099] As the 1st example mentioned above explained, in a microcomputer 13, CM is distinguished with a sound signal and a video signal at the time of record of a program. In order to record the positional information of distinguished CM on a magnetic tape 1 after record termination, it is directed that a microcomputer 13 rewinds a tape in the tape drive circuit 15. The tape drive circuit 15 makes a motor 8 drive, and records CM information for a magnetic tape 1 by rewinding and CM information R/W circuit 19. CM positional information of a magnetic tape 1 is first read by CM information R/W circuit 19, the information is accumulated in the microcomputer 13 interior, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid

traverse etc., in case it reproduces.
[0100] The location which records CM information is explained using drawing 5 .
[0101] Drawing 5 is the mimetic diagram of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.
[0102] In the example of drawing 5 , the portion which stores CM information in the volume first portion of a magnetic tape 1 is prepared, and CM information on all programs is stored there. In the case of this example, the information on Program A and Program B is recorded on a head portion (shadow area). CM positional information start signal is recorded on the control truck of the head portion of a magnetic tape 1, and CM positional information is recorded on the main part record portion of a magnetic tape 1 following this CM positional information start signal. The head broth signal is recorded on the control truck of the head of Programs A and B.
[0103] The content of record of CM positional information is the information about CM portion located between Programs A and B and each which have been illustrated to drawing 5 . That is, about Program A, they have been the information on the time amount length of a program A-1, the information on the time amount length of CM following it, the information on the time amount length of a program A-2, the information on the time amount length of CM following it, and the information on the time amount length of a program A-3. Furthermore, they are collectively recorded by the information on time amount ** of the program B-1 about the program B following it, the information on the time amount length of CM following it, the information on the time amount length of a program B-2, and the information on the time amount length of CM following it.
[0104] When it becomes CM portion by comparison with the tape positional information which once rewinds a magnetic tape 1 to a head location in case it reproduces, detects CM positional information start signal, usually reads CM positional information of a magnetic tape 1 by CM information R/W circuit 19 playback after that, accumulates the information in the microcomputer 13 interior, and is read by the tape positional information R/W circuit 14 from a magnetic tape 1 while reproducing a program, CM portion is made to skip with a rapid traverse etc.
[0105] Once it reads CM information on top according to this example, CM information on all programs can be grasped.
[0106] Moreover, since CM information is recorded on the head portion of a tape, also when overwrite is carried out, all CM information can be rewritten anew.
[0107] Drawing 6 is the mimetic diagram of other examples of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.
[0108] In the example of drawing 6 , CM information is recorded on the head portion for every image transcription program. In the case of this example, the information on Program A and Program B is recorded on the head portions (shadow area) of Program A and Program B, respectively. CM positional information start signal is recorded on the head portion of each program of the control truck of a magnetic tape 1, and CM positional information is recorded on the main part record portion of a magnetic tape 1 following this CM positional information start signal. The head broth signal is recorded on the control truck of each head of Programs A and B.
[0109] The content of record of CM positional information is the information about CM portion located between Programs A and B and each which have been illustrated to drawing 6 . That is, about Program A, they have been the information on the time amount length of a program A-1, the information on the time amount length of CM following it, the information on the time amount length of a program A-2, the information on the time amount length of CM following it, and the information on the time amount length of a program A-3. Moreover, about Program B, the information on time amount ** of a program B-1, the information on the time amount length of CM following it, the information on the time amount length of a program B-2, and the information on the time amount length of CM following it are recorded, respectively.
[0110] When it becomes CM portion by comparison with the tape positional information which rewinds a magnetic tape 1 to the head location of each program in case it reproduces, detects CM positional-information start signal, usually reads CM positional information of a magnetic tape 1 by CM information R/W circuit 19 playback after that, accumulates the information in the microcomputer 13 interior, and is read by the tape positional-information R/W circuit 14 from a magnetic tape 1 while reproducing a program, CM portion is made to skip with a rapid traverse etc.
[0111] According to this example, in order for what is necessary just to be to rewind to the head of each program, there are few amounts of rewinding compared with the above-mentioned example, it ends, and operability is good.
[0112] In this case, the amount which rewinds the tape after record termination can be managed with the minimum. However, when overwrite etc. is carried out, there is a possibility that CM information may disappear.
[0113] On the other hand, in the example shown in drawing 5 , since it is the head portion of a tape, also when overwrite is carried out, all CM information can be rewritten anew.
[0114] Drawing 7 is the mimetic diagram of the example of others of the direction of an oblong hand of the magnetic tape 1 in the example of others of this invention, and shows the control truck portion and the portion which records a video signal.
[0115] In the example of drawing 7 , CM point start signal and CM terminate signal are recorded on the control truck before and behind CM portion for every image transcription program as a CM information signal. The head broth signal is recorded on the control truck of each head of Programs A and B. The content of record of CM positional information is that of each showing the starting position and termination location of CM.
[0116] CM positional information of a magnetic tape 1 is read by CM information R/W circuit 19, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape

positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid traverse etc., usually playing a magnetic tape 1, in case it reproduces.
[0117] In this case, since the start signal and terminate signal of CM cannot be driven in during program record, based on CM positional information judged after program record termination and during record, with a microcomputer 13, the tape drive circuit 15 is directed, a motor 8 is driven, and a start signal and a terminate signal are driven into a rewinding starting position and a termination location to CM location. By reading this CM start signal at the time of playback, CM portion is fast forwarded and it returns to standard playback in the phase which read CM terminate signal. It is not necessary to rewind in order to read CM information to the head.
[0118] According to this example, by reproducing ordinarily, since it is not necessary to rewind a magnetic tape and can skip automatically, operability is good.
[0119] Even if it makes it which [which was mentioned above / three] method, when writing CM information in a magnetic tape, the reorganization collection of the tape must be again rewound and carried out after record termination.
[0120] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal or a video signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.
[0121] Moreover, as mentioned above, only when playing the magnetic tape recorded by this method with the equipment which recorded that tape, it can use by the method which uses CM information store circuit, but also when the magnetic tape with which CM information was memorized is played with other equipments according to this example, Hayami playback etc. can skip by carrying out CM portion appropriately by reading the information on a head location.
[0122] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.
[0123] Moreover, since a commercial message portion is distinguished also from a video signal, CM portion can be distinguished more to accuracy.
[0124] Moreover, in case a commercial message portion is distinguished from a video signal, a commercial message portion can be further distinguished with high degree of accuracy by using the change portion of a video signal.
[0125] Moreover, in case a commercial message portion is distinguished from a video signal, compared with the case where the change portion of a video signal is used, the processing can be facilitated by using the fade-out portion of a video signal.
[0126] Moreover, precision is raised further, next by carrying out by combining distinction by broadcast mode explains other examples to the pan of this invention using drawing 8 . Drawing 8 is a block diagram which explains other examples to the pan of this invention. The same sign as the example of drawing 2 shows the same portion.
[0127] Differing from the 2nd example is a point which a means to memorize CM information writes in the magnetic tape with which not an enternal memory means but programs, such as a semiconductor, are recorded.
[0128] In a microcomputer 13, CM is distinguished like the 2nd example mentioned above with a sound signal at the time of record of a program. In order to record the positional information of distinguished CM on a magnetic tape 1 after record termination, it directs that a microcomputer 13 rewinds a magnetic tape 1 in the tape drive circuit 15, and the tape drive circuit 15 makes a motor 8 drive, and records CM information for a magnetic tape 1 by rewinding and CM information R/W circuit 19.
[0129] CM positional information of a magnetic tape 1 is accumulated in the readout, it accumulates the information in the microcomputer 13 interior by CM information R/W circuit 19, and when it becomes CM portion by comparison with the tape positional information read from a magnetic tape 1 by the tape positional information R/W circuit 14 while reproducing a program, CM portion is made to skip with a rapid traverse etc., in case it reproduces. As the location which writes in the information on CM was mentioned above, it is the head location of a magnetic tape, or is a part for the introduction of a program, or positional information drives the start signal and terminate signal of CM into a control truck, without writing in.
[0130] According to this example, while recording a program, by measuring the gap of the singular point of a sound signal, distinction with a part for a commercial message portion and a program content block can be attached, and while reproducing a program, CM portion can be further skipped using the information on CM portion for which it calculated and asked at the time of record.
[0131] Moreover, since distinguished CM positional information is recorded on the magnetic tape itself instead of the exterior, CM can be made to skip similarly in a magnetic recorder and reproducing device with this function.
[0132] Moreover, since the non-voice portion of a sound signal is detected and a commercial message portion is distinguished, CM portion can be distinguished comparatively easily.
[0133] Moreover, precision is further raised by carrying out by combining distinction by broadcast mode.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

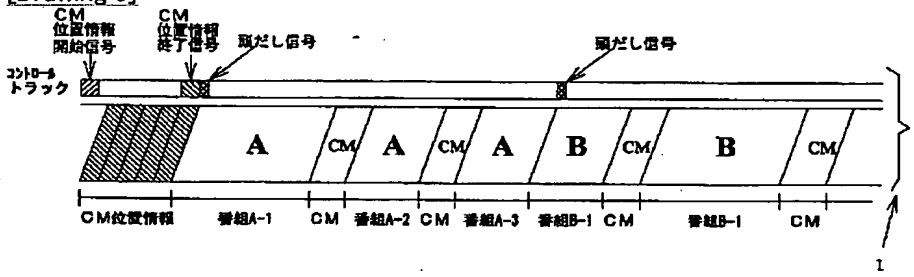
[Brief Description of the Drawings]
[Drawing 1] It is the block diagram of the image record regenerative apparatus by one example of this invention.
[Drawing 2] It is drawing explaining the CM distinction method by one example of this invention.
[Drawing 3] It is the block diagram of the image record regenerative apparatus by other examples of this invention.
[Drawing 4] It is the block diagram of the image record regenerative apparatus by the example of others of this invention.
[Drawing 5] It is the mimetic diagram of the direction of an oblong hand of the magnetic tape in the example of others of this invention.
[Drawing 6] They are other mimetic diagrams of the direction of an oblong hand of the magnetic tape in the example of others of this invention.
[Drawing 7] It is the mimetic diagram of others of the direction of an oblong hand of the magnetic tape in the example of others of this invention.
[Drawing 8] It is the block diagram of the image record regenerative apparatus according to other examples to the pan of this invention.
[Description of Notations]
1 — Magnetic tape
2 — Capstan
3 — Pinch roller
4 — Magnetic head
5 — Rotating cylinder
6 — Magnetic-head transfer switch
7 — Arm head for control pulses
8 — Magnetic tape drive motor
9 — Sound signal level detector
10 — Speech processing circuit
11 — Silent voice partial detector
12 — CM information storage circuit
13 — Microcomputer
14 — Tape positional information R/W circuit
15 — Tape drive circuit
16 — Video-signal level detector
17 — Video-signal processing circuit
18 — Video-signal detector
19 — CM information R/W circuit
20 — Tuner
21 — Antenna
22 — Control pulse R/W circuit
23 — CM skip on/off switch
24 — Broadcast mode distinction machine

[Translation done.]

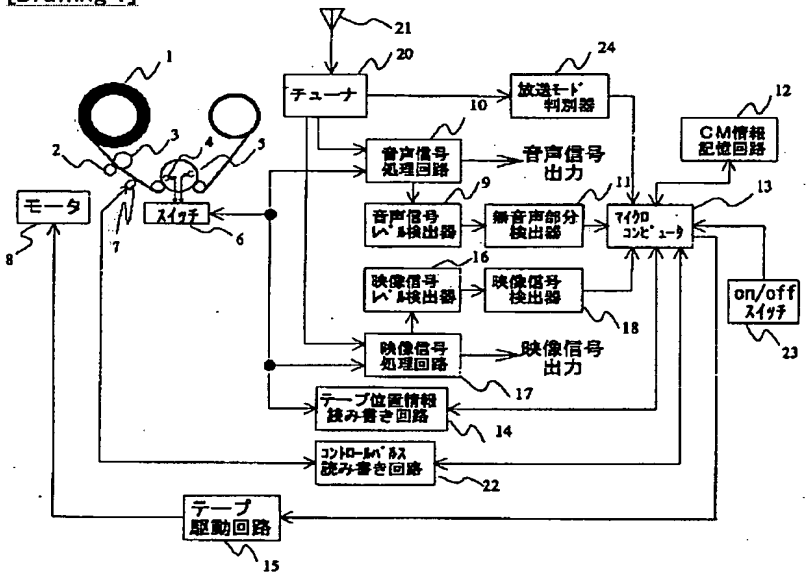
* NOTICES *

DRAWINGS

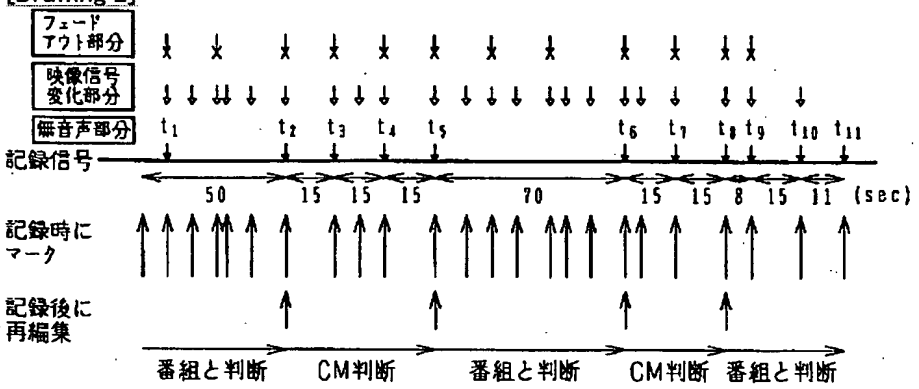
[Drawing 5]



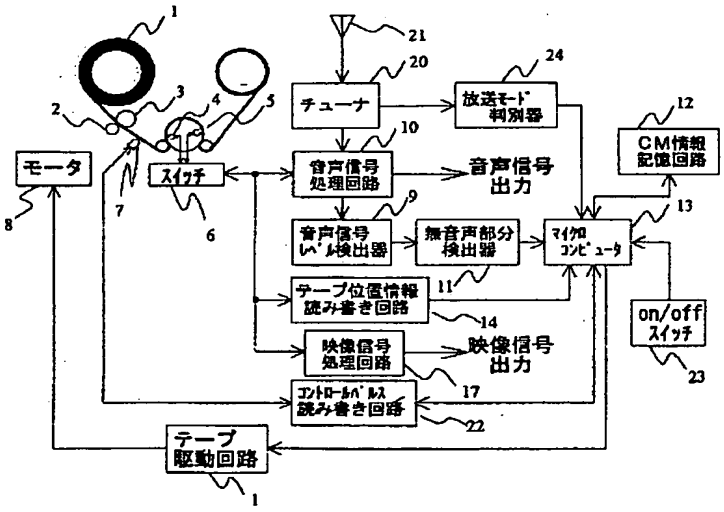
[Drawing 1]



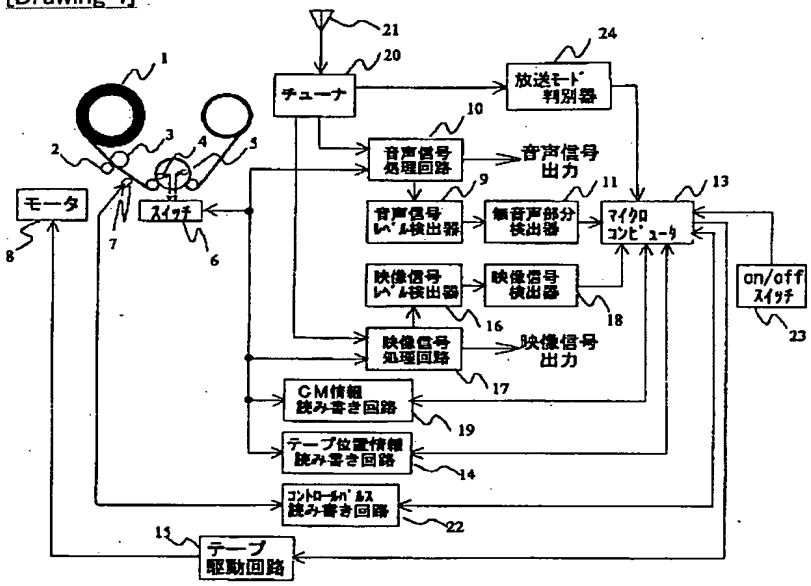
[Drawing 2]



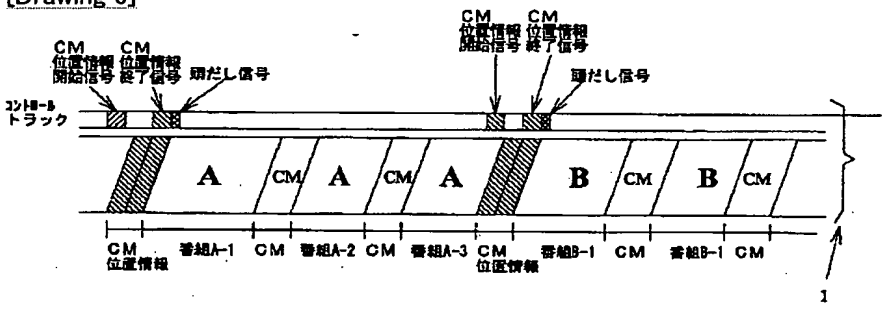
[Drawing 3]



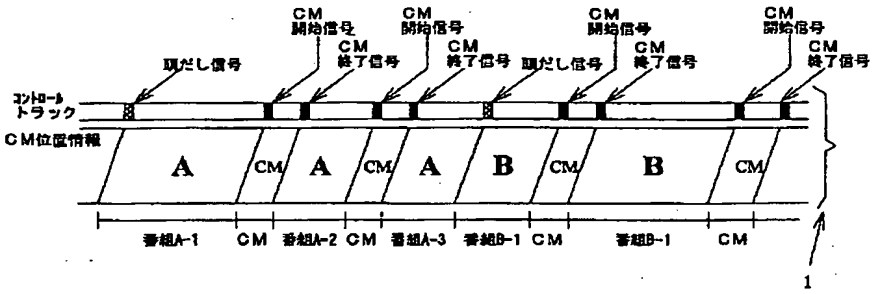
[Drawing 4]



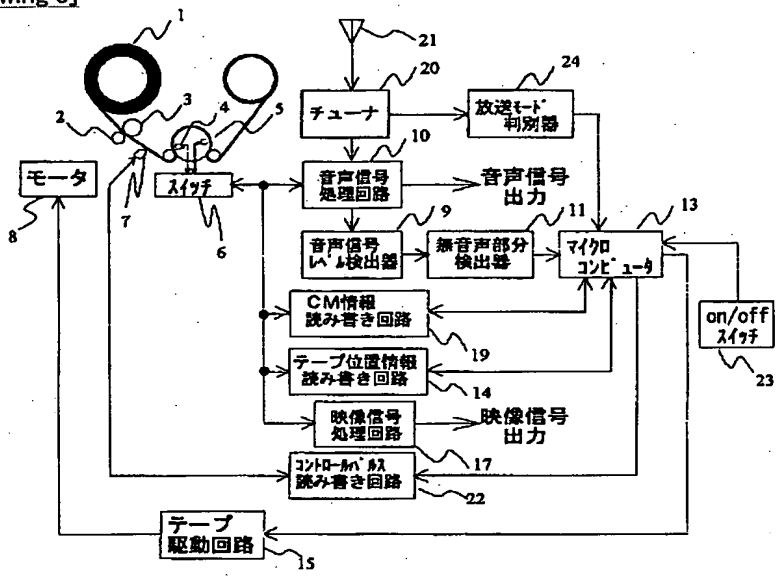
[Drawing 6]



[Drawing 7]



[Drawing 8]



[Translation done.]

* NOTICES *

CORRECTION OR AMENDMENT

[Official Gazette Type] Printing of amendment by convention of 2 of Article 17 of patent law
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H04N 5/76 A
7/16 Z
5/782 A
Z
5/91 Z
G11B 27/19 Z

[Procedure amendment]
[Filing Date] April 23, Heisei 14 (2002. 4.23)
[Procedure amendment 1]
[Document to be Amended] Description
[Item(s) to be Amended] The name of invention
[Method of Amendment] Modification
[Proposed Amendment]
[Title of the Invention] Record regenerative apparatus
[Procedure amendment 2]
[Document to be Amended] Description
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[Proposed Amendment]
[Claim(s)]
[Claim 1] A record playback means to record a video signal and a sound signal on a record medium, and to reproduce a video signal and a sound signal from a record medium,
The 1st distinction means which distinguishes a range where a time interval of the change section from which said video signal and sound signal change is predetermined time, and two or more portions of this predetermined time continue as it is a commercial range,
A record regenerative apparatus characterized by having the 2nd distinction means which distinguishes a range said whose sound signal is in predetermined broadcast mode as it is a commercial range.
[Claim 2] A record playback means to record a video signal and a sound signal on a record medium, and to reproduce a video signal and a sound signal from a record medium,
The 1st control means which controls said record playback means to skip a range where a time interval of the change section from which said video signal and sound signal change is predetermined time, and two or more

portions of this predetermined time continue,
A record regenerative apparatus characterized by having the 2nd control means which controls said record playback means to skip a range said whose sound signal is in predetermined broadcast mode.
[Claim 3] Said broadcast mode is a record regenerative apparatus according to claim 1 or 2 characterized by including stereo mode, the two-language mode, or monophonic mode.
[Claim 4] Said predetermined time is a record regenerative apparatus according to claim 1 to 3 characterized by being a multiple for real 15 seconds.
[Claim 5] Said change section is a record regenerative apparatus according to claim 1 to 3 characterized by being the portion whose level of said sound signal is zero substantially.
[Claim 6] Said change section is a record regenerative apparatus according to claim 1 to 3 characterized by being the portion whose level of said video signal is black level or a white level.
[Claim 7] Said change section is a record regenerative apparatus according to claim 1 to 3 characterized by being the portion from which level of said video signal and a sound signal changes.
[Claim 8] A record regenerative apparatus according to claim 2 characterized by said skip being a rapid traverse or the Hayami playback.
[Claim 9] Said 1st control means is a record regenerative apparatus according to claim 2 characterized by controlling to usually reproduce a portion in which a portion which is said predetermined time appears independently.

[Procedure amendment 3]
[Document to be Amended] Description
[Item(s) to be Amended] 0001
[Method of Amendment] Modification
[Proposed Amendment]
[0001]
[The technical field to which invention belongs] This case starts a record regenerative apparatus, especially carries out record playback of the television broadcasting signal, and is related with the record regenerative apparatus which distinguishes a part for a commercial message portion and a program content block in a program.
[Procedure amendment 4]
[Document to be Amended] Description
[Item(s) to be Amended] 0009
[Method of Amendment] Modification
[Proposed Amendment]
[0009]
[Means for Solving the Problem] In order to attain the above-mentioned object, a record regenerative apparatus concerning this invention A record playback means to record a video signal and a sound signal on a record medium, and to reproduce a video signal and a sound signal from a record medium, The 1st distinction means which distinguishes a range where a time interval of the change section from which said video signal and sound signal change is predetermined time, and two or more portions of this predetermined time continue as it is a commercial range, Said sound signal considers as a configuration equipped with the 2nd distinction means which distinguishes a range which is in predetermined broadcast mode as it is a commercial range.
[Procedure amendment 5]
[Document to be Amended] Description
[Item(s) to be Amended] 0010
[Method of Amendment] Modification
[Proposed Amendment]
[0010] Moreover, a record playback means for the record regenerative apparatus concerning this invention to record a video signal and a sound signal on a record medium, and to reproduce a video signal and a sound signal from a record medium, The 1st control means which controls said record playback means to skip the range where the time interval of the change section from which said video signal and sound signal change is predetermined time, and two or more portions of this predetermined time continue, It considers as a configuration equipped with the 2nd control means which controls said record playback means to skip the range said whose sound signal is in predetermined broadcast mode.
[Procedure amendment 6]
[Document to be Amended] Description
[Item(s) to be Amended] 0011
[Method of Amendment] Modification
[Proposed Amendment]
[0011] Moreover, said broadcast mode is characterized by including stereo mode, the two-language mode, or monophonic mode.
[Procedure amendment 7]
[Document to be Amended] Description
[Item(s) to be Amended] 0012
[Method of Amendment] Modification
[Proposed Amendment]
[0012] Moreover, said predetermined time is characterized by being a multiple for real 15 seconds.

[Procedure amendment 8]
[Document to be Amended] Description
[Item(s) to be Amended] 0013
[Method of Amendment] Modification
[Proposed Amendment]
[0013] Moreover, said change section is characterized by being the portion whose level of said sound signal is zero substantially.
[Procedure amendment 9]
[Document to be Amended] Description
[Item(s) to be Amended] 0014
[Method of Amendment] Modification
[Proposed Amendment]
[0014] Moreover, said change section is characterized by being the portion whose level of said video signal is black level or a white level.
[Procedure amendment 10]
[Document to be Amended] Description
[Item(s) to be Amended] 0015
[Method of Amendment] Modification
[Proposed Amendment]
[0015] Moreover, said change section is characterized by being the portion from which the level of said video signal and a sound signal changes.
[Procedure amendment 11]
[Document to be Amended] Description
[Item(s) to be Amended] 0016
[Method of Amendment] Modification
[Proposed Amendment]
[0016] Moreover, it is characterized by said skip being a rapid traverse or the Hayami playback.
[Procedure amendment 12]
[Document to be Amended] Description
[Item(s) to be Amended] 0017
[Method of Amendment] Modification
[Proposed Amendment]
[0017] Moreover, said 1st control means is characterized by controlling to usually reproduce the portion in which the portion which is said predetermined time appears independently.
[Procedure amendment 13]
[Document to be Amended] Description
[Item(s) to be Amended] 0018
[Method of Amendment] Deletion
[Procedure amendment 14]
[Document to be Amended] Description
[Item(s) to be Amended] 0019
[Method of Amendment] Deletion
[Procedure amendment 15]
[Document to be Amended] Description
[Item(s) to be Amended] 0020
[Method of Amendment] Deletion
[Procedure amendment 16]
[Document to be Amended] Description
[Item(s) to be Amended] 0021
[Method of Amendment] Deletion
[Procedure amendment 17]
[Document to be Amended] Description
[Item(s) to be Amended] 0022
[Method of Amendment] Modification
[Proposed Amendment]
[0022]
[Function] In this invention, even if broadcast mode is the same by having the above-mentioned configuration, a commercial message portion can be distinguished.
[Procedure amendment 18]
[Document to be Amended] Description
[Item(s) to be Amended] 0023
[Method of Amendment] Deletion
[Procedure amendment 19]
[Document to be Amended] Description
[Item(s) to be Amended] 0024